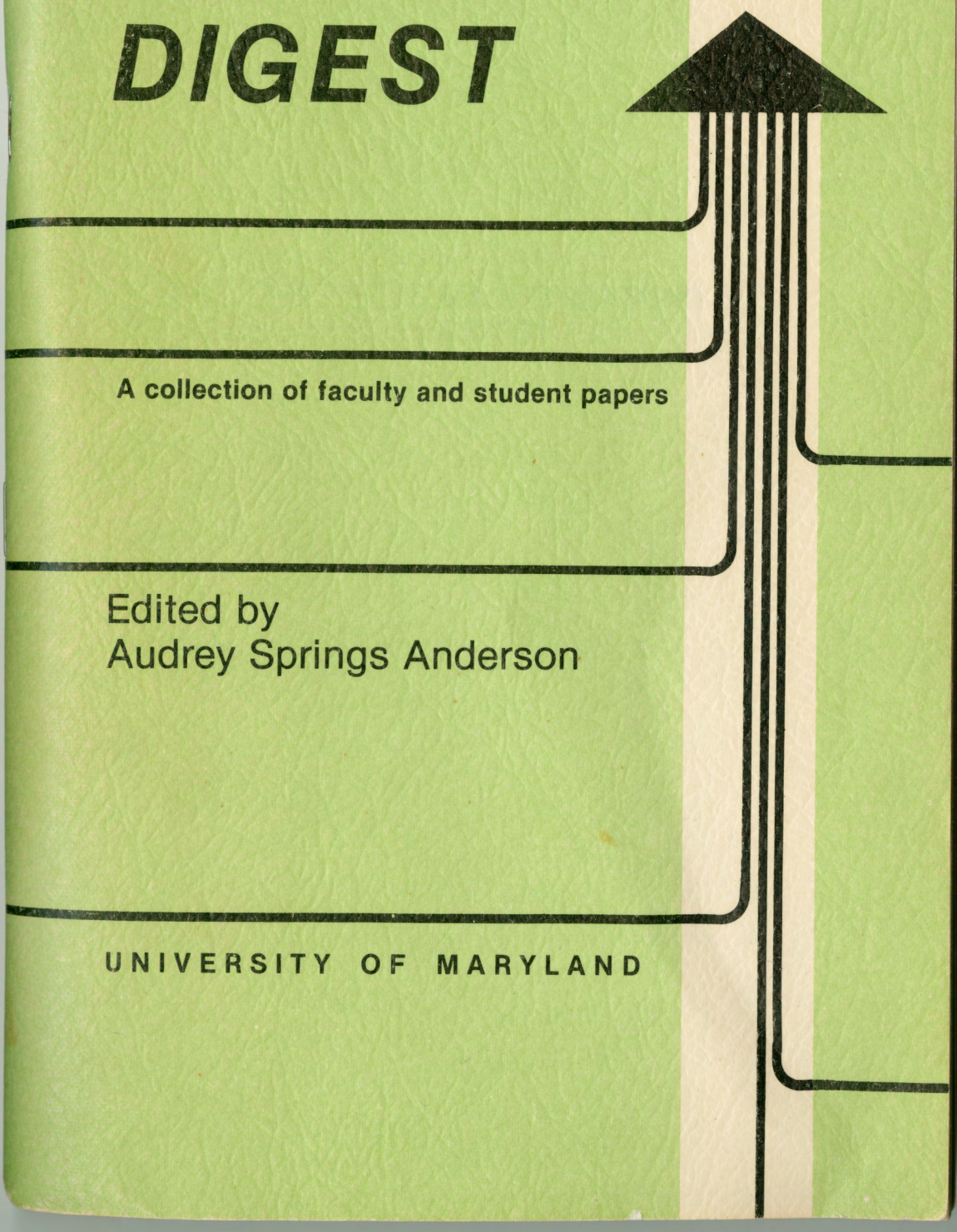
Frank Lyman First Article on Think, Pair, Share

MAINSTREAMING DIGEST



A collection of faculty and student papers

Edited by
Audrey Springs Anderson

UNIVERSITY OF MARYLAND

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MAINSTREAMING
DIGEST

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Division of Personnel Preparation

MAINSTREAMING DIGEST

A Collection of Faculty and Student Papers

Edited by
Audrey Springs Anderson

Assistant Editors
Joan Moir Dodge
Maureen Mulroy Thomas

UNIVERSITY OF MARYLAND
1981

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FOREWORD

Following the passage of PL 94–142, The Education for All Handicapped Children Act, much attention has been focused on the outcome of integrating handicapped and nonhandicapped students in regular classroom settings. Almost immediately the complexity of this issue became clear—there were no simplistic answers or short cuts that could be implemented. The change process, as usual, was painfully slow. Each of the constituencies involved (principals, teachers, professional support personnel, parents, school board members, teacher educators, special educators, et al.) became caught in a tangled web that caused defensiveness and prevented open communication.

Of paramount importance was a growing concern that "regular" teachers needed additional skills and knowledge that they were not getting in their teacher preparation programs. One of the major attempts to facilitate the needed change in teacher education nationwide was the funding of "Deans' Grants" by the Office of Special Education, formerly Bureau of Education for the Handicapped. These grants have been made available to deans across the country for the past seven years. Although specific goals varied, the major purpose was to bring about staff development and program change in order to better prepare teachers, counselors and administrators to work with handicapped students in least restrictive settings.

The College of Education at the University of Maryland was fortunate to receive a three-year Deans' Grant in 1978 for the purpose of staff development, program revision and resource acquisition. During the third year of the grant period, a call was made for papers from faculty and students. The Mainstreaming Digest represents a collection of these papers as they relate to the identified purposes of our Dean's Grant Project. Its intent is to share with the readers some thoughts, feelings, information and strategies that might prove helpful as we move along the road toward more effective education for all students.

ASA

ACKNOWLEDGMENTS

I would like to express my deep appreciation for the support that a number of individuals provided during the preparation of this text. First, I'd like to thank Dr. George Marx, Assistant Provost for the College of Education, who continually showed his support for the Dean's Grant Project throughout this past year. In addition, I'd like to thank all the faculty members of the Interdisciplinary Planning Committee who worked with the Grant over the three-year period. For editorial assistance in compiling this digest, I owe special thanks to Joan Dodge and Maureen Thomas. Finally, I'd like to thank all those persons who were kind enough to contribute to this digest.

Audrey Springs Anderson
Editor

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A Survey of School Personnel from Three Maryland School Districts: Their Needs and Feelings Relative to P.L. 94–142

Audrey Springs Anderson

HISTORICALLY, handicapped children have been faced with massive neglect, denial and rejection. As a result of recent legislation and litigation at both the state and national levels, the directive is clear: all handicapped children are entitled to a free appropriate public education. Although P.L. 94–142 is a mandate for change in regard to the educational placement of mildly handicapped students, it should be stressed that a corresponding change is necessary in the skills and attitudes of regular educators at all levels. The successful placement of handicapped children into regular class settings is highly dependent upon the readiness of school administrators, teachers and nonhandicapped children for this change to occur.

Attitudes, fears and anxieties, resulting from misinformation or lack of information, cannot be legislated. Yet, most educators would agree that a positive attitude on the part of the regular classroom teacher is essential to the educational and psychological adjustment of the mainstreamed student. The complex human and legal problems emanating from mainstreaming* have resulted in disagreement and confusion among teachers and teacher educators.

A number of colleges and universities across the country are making changes in their pre-service teacher education programs in response to the skills and knowledge deemed necessary for the general educator as a result of the placement of mildly handicapped students in the regular classroom. During the spring of 1979, the College of Education (UMCP) as part of its Dean's Grant activities, conducted a survey of school personnel from three districts in order to ascertain their needs and feelings relative to P.L. 94–142 and its perceived effect upon them. From the three districts a total of 685 responses were received. The breakdown of responses by county was as follows:

*The term mainstreaming is not to be found in P.L. 94–142; however, it is currently being used to denote the concept of integrating handicapped children with nonhandicapped children in least restrictive settings.

Baltimore City	511
Charles County	113
Calvert County	61
Total	685

By type of school, the breakdown was as follows:

Elementary	266
Junior High	126
Middle	73
Senior High	220
Total	685

The largest number of teachers responding classified themselves as general educators (N = 441, 64%); the next largest category was special educator (N = 120, 18%). More detailed information can be found in Table 1. Sixty-eight percent of those responding had seven or more years teaching experience (Table 2). Most respondents had not had a course in mainstreaming (N = 516; 75%) nor had they participated in in-service training (N = 445; 65%). These two findings are noteworthy primarily because of the implications for in-service training. It should be noted that the majority of faculty were tenured and had been on the job more than seven years and had not participated in any in-service training relative to P.L. 94–142.

Eleven areas were identified as being relative to P.L. 94–142 and the respondents were asked to indicate whether these could best be met through pre-service or in-service offerings.

Three items were cited most often as being pre-service concerns:

- Federal and state legislation regarding mildly handicapped students (mhs) (49%)
- Characteristics of mhs (51%)
- Teaching methods and techniques appropriate for mhs (49%)

Three items were also cited most often as being in-service concerns:

- Developing effective Individual Educational Programs (IEPs) (45%)
- Identifying and coordinating resources (teaching materials and equipment, school and community) (49%)
- Using formal and informal techniques in assessing student skills and performance level (43%)

The last twenty-three items of the survey dealt with different aspects of integrating mhs into regular class settings and the respondents were asked to rank their feelings on a five-point scale, from *strongly agree* to *strongly disagree.*

Table 1
Subject Area Specialty for All Respondents

Subject Matter Area	Elementary School Teachers N	%	Middle School Teachers N	%	Junior High Teachers N	%	Senior High Teachers N	%
General Education	200	75.2	49	67.1	76	60.3	116	52.7
Special Education	50	18.8	14	19.2	26	20.6	30	13.6
Guidance Personnel	1	.4			7	5.6	13	5.9
Vocational Education			3	4.1	10	7.9	35	15.9
Art	1	.4	1	1.4	2	1.6	7	3.2
Media	4	1.5			1	.8	4	1.8
Music	4	1.5	1	1.4	3	2.4	5	2.3
Physical Education	5	1.9	4	5.5	1	.8	10	4.5
No Response	1	.4	1	1.4				

Table 2
Years of Teaching Experience—All Respondents

Number of Years Teaching Experience	Elementary School Teachers N	%	Middle School Teachers N	%	Junior High Teachers N	%	Senior High Teachers N	%
1–3 years	32	12.0	15	20.5	20	15.9	32	14.5
4–6 years	51	19.2	6	8.2	32	25.4	30	13.6
7–9 years	51	19.2	19	26.0	19	15.1	12	19.1
+10 years	132	49.6	33	45.2	51	42.9	115	52.3
No Response					1	.8	1	.5

Teachers' attitudes and perceived needs were measured by obtaining the percent of responses which indicated item agreement or disagreement. Item agreement was indicated by a response of *agree* and *strongly agree;* disagreement by a response of *disagree* or *strongly disagree* (see table 3).

There was a fairly consistent response across grade levels for the first item. More teachers disagreed with the statement that the educational needs of mhs can best be met in the regular classroom. With the exception of the elementary group, more respondents disagreed that the socio-emotional needs of mhs can best be met in the regular classroom. There was a substantial amount of uncertainty on this item. More than 20% at each grade level were undecided.

Most of those surveyed felt that meeting special learners' needs should remain in the domain of special education. Although more than 25% were undecided, the majority felt that graduates of current teacher education programs were not likely to be successful working with mhs.

A substantial majority of the respondents felt that the presence of a mhs would not have a negative effect on the ability of a teacher to meet either the socio-emotional or educational needs of nonhandicapped students. The majority of those responding, however, felt that mainstreaming placed unrealistic demands on general educators.

The next four items received substantial agreement across grade levels:

- Alter existing teacher education programs to accommodate P.L. 94-142
- Teachers need more training than can be provided in an afternoon workshop
- If teachers are going to be successful with mhs, they should have fewer children in the classroom
- Mainstreaming mhs will require most teachers to develop new techniques

Regardless of the manner in which the data were categorized, item 10, dealing with class size, consistently received the greatest amount of agreement. Building administrators particularly should take note of this rather strong feeling.

Although 20% expressed uncertainty, more respondents agreed that the teacher's expectation was not as high for the mhs as it was for the nonhandicapped student. The majority of teachers felt that mainstreaming did have an effect on the self concept of a mhs. Thirty percent of the middle school and senior high teachers were undecided, however.

As might be anticipated, the majority of respondents felt that the regular classroom teacher should participate in the administrative decision to assign a mhs. There was also substantial agreement that instructional programs should be prepared to meet the needs of each student.

Table 3*

Feelings Related to the Perceived Effect of P.L. 94–142 on the Educational Environment

Statements	Elementary School Teachers A	Elementary School Teachers D	Middle School Teachers A	Middle School Teachers D	Junior High Teachers A	Junior High Teachers D	Senior High Teachers A	Senior High Teachers D
1. The *educational needs* of most mildly handicapped students can be best met through integration in the regular classroom	34%	41%	33%	49%	32%	51%	33%	49%
2. The *socio-emotional* needs of most mildly handicapped students can be best met through integration in the regular classroom	42%	32%	34%	45%	33%	38%	34%	45%
3. Meeting special learners' needs, at all levels of education, should remain in the domain of special education	47%	31%	45%	37%	64%	17%	45%	37%
4. Graduates of current teacher education programs are likely to be successful working with mainstreamed, mildly handicapped students	19%	43%	15%	56%	24%	48%	15%	56%
5. The presence of a mildly handicapped student in a regular classroom has a negative effect on a teacher's ability to meet the *socio-emotional* needs of nonhandicapped students	22%	59%	25%	56%	35%	45%	25%	56%
6. The presence of a mildly handicapped student in a regular classroom has a negative effect on a teacher's ability to meet the *educational* needs of the nonhandicapped students	30%	52%	33%	49%	41%	42%	33%	49%
7. Mainstreaming in education places unrealistic demands on general educators in today's schools	53%	27%	54%	26%	52%	21%	54%	26%

Note: The figures do not total 100% because of the "Undecided" responses.

Table 3, *continued*

Feelings Related to the Perceived Effect of P.L. 94–142 on the Educational Environment

Statements	Elementary School Teachers		Middle School Teachers		Junior High Teachers		Senior High Teachers	
	A	D	A	D	A	D	A	D
8. Existing teacher education programs should be altered to accommodate newly mandated regulations (P.L. 94–142)	85%	7%	74%	13%	86%	6%	74%	13%
9. Teachers need more training to work with children with special needs than can be provided in afternoon workshops	85%	6%	83%	3%	78%	11%	83%	3%
10. If teachers are going to be successful with children with special needs, they should have fewer children in the classroom	97%	1%	96%	1%	96%	1%	96%	1%
11. The mainstreaming of mildly handicapped students will require most teachers to develop new techniques in classroom/behavioral management and discipline	82%	9%	80%	17%	84%	7%	80%	17%
12. In a regular class the teacher's expectation is not as high for mildly handicapped students as it is for nonhandicapped students	42%	38%	48%	32%	52%	31%	48%	32%
13. Mainstreaming the mildly handicapped student has little or no effect on his/her self-concept	9%	70%	7%	63%	19%	64%	7%	63%
14. As a regular teacher you should participate in the administrative decision to assign a mildly handicapped student to your classroom	89%	4%	81%	11%	78%	11%	81%	11%
15. Considering the range of student ability, you should be expected to adequately prepare instructional programs that meet the needs of each student	74%	16%	66%	21%	70%	19%	66%	21%

Note: The figures do not total 100% because of the "Undecided" responses.

Table 3, *continued*
Feelings Related to the Perceived Effect of P.L. 94-142 on the Educational Environment

Statements	Elementary School Teachers A	D	Middle School Teachers A	D	Junior High Teachers A	D	Senior High Teachers A	D
16. Students with mildly handicapping conditions receive too much consideration and too many allowances by the regular teacher	19%	49%	18%	49%	27%	39%	18%	49%
17. The role of the special educator as a resource person should be an extension of the regular classroom teacher	74%	9%	64%	15%	72%	13%	64%	15%
18. Regular teachers should be held accountable for the academic success of each student	42%	39%	33%	46%	32%	53%	33%	46%
19. Colleges and universities should revise their curriculum to help meet the special needs regular teachers have rather than relying solely on in-service training programs	90%	5%	91%	4%	86%	8%	91%	4%
20. Most teachers have the necessary diagnostic skills to make assessments and referrals of students who may have special needs	39%	50%	29%	62%	40%	49%	29%	62%
21. The parents of mildly handicapped students should have an active role in designing individual education programs	61%	16%	56%	14%	21%	34%	56%	14%
22. Teaching methods and techniques appropriate for mildly handicapped students are generally the same as teaching nonhandicapped students	25%	50%	27%	54%	35%	56%	27%	54%
23. Mildly handicapped students should have an active role in designing their individual educational programs	35%	32%	37%	37%	34%	35%	37%	37%

*Questions 1, 2, 4, 5, 6, 7, and 8 were taken from Dean's Grant Project Needs Assessment, University of Tennessee, Knoxville, TN

There was a large amount of uncertainty, ranging from 30–34%, as to whether students with mildly handicapped conditions received too many allowances by regular educators. However, more (49%) disagreed with this statement than agreed.

The majority of the respondents agreed to the role of the special educator as a resource person. Elementary teachers agreed (42%) that teachers should be held accountable for the academic success of each student. However, more middle school, junior high and senior high respondents disagreed than agreed with the statement.

A large majority of those responding felt that colleges and universities should revise their curricula to meet the special needs of regular teachers rather than relying solely on in-service efforts. The respondents at all levels felt that most teachers lacked the necessary diagnostic skills to make assessments and referrals of students with special needs.

Items 21 and 23 dealt with the involvement of parents and handicapped students in designing IEP's. The responses to both items reflected a great amount of uncertainty about the viability of this plan. However, with the exception of the junior high group, the majority felt that parents should be involved. The percentages agreeing and disagreeing with student involvement as well as those who were uncertain were all fairly close, making it impossible to ascertain a majority opinion. As a point of information, the law does provide for parent involvement in the developing of IEP's and further states that students should be involved to the fullest extent possible.

The majority of those responding felt that the teaching methods and techniques appropriate for mhs were *not* the same as those used with nonhandicapped students.

As a followup to this survey, seven educators, representing Howard, Baltimore and Montgomery counties, were interviewed for the purpose of:

1. ascertaining the reactions of school personnel toward mainstreaming
2. delineating problem areas from various perspectives
3. recommending strategies that might prove helpful in alleviating major areas of concern.

Among the interviewees were teachers, principals, a counselor, a school psychologist and a mainstream coordinator.

Those interviewed felt that the regular classroom may or may not be the most appropriate environment based on two crucial variables: the capabilities of the individual child and the skills and attitudes of the teachers. It was felt that the self concept of handicapped children can be

affected either positively or negatively depending on whether the individual was accepted and succeeded or was rejected and failed. Whether or not mainstreaming was perceived as having effect on a teacher's ability to work with nonhandicapped children was dependent upon the teacher's attitude and skill, as well as class size and available support services. These same factors were also related to one's view of whether or not mainstreaming placed unrealistic demands on teachers.

Although individual perspectives varied, several themes appeared time and again regardless of question. Those themes were: The importance of positive attitudes, inservice training, time for planning and comprehensive support services. The results of our survey and interviews came as no suprise. As a matter of fact, the findings were similar to several other studies in this area.

Other Research Findings

Hudson, Graham and Warner (1979) conducted a study of 151 regular elementary teachers from 28 school districts in Missouri and Kansas and came up with similar results. They found that regular classroom teachers' attitudes were not supportive of mainstreaming and that they were apprehensive of the effect the integration would have on their classroom and teaching effectiveness. Although our group did not feel that the regular classroom was the best placement for handicapped students, they did not agree that it would have a negative effect on a teacher's ability to meet the educational or socio-emotional needs of nonhandicapped students.

Vacc and Kirst (1977) randomly selected 149 regular classroom teachers to assess attitudes toward the integration or segregation of emotionally disturbed children. Most of the teachers did not seem to support mainstreaming; this group believed that emotionally disturbed children should be segregated into special classes in a regular school setting, although they seemed to recognize that it would be beneficial for emotionally disturbed children to remain in regular classes. These teachers felt that the placement of emotionally disturbed youngsters in regular classrooms would not be beneficial to the nonhandicapped children.

Vacc's group felt that at least one course in special education was necessary and that a smaller class size as well as a teacher aide was also needed. The recommendation of their study was that teachers and students should have more exposure to emotionally disturbed children in order to develop more positive attitudes. One word of caution here. Studies have shown that exposure to handicapped individuals can have

either a negative or a positive effect. Consequently, one must consider carefully and plan for the *quality* of the contact or interaction.

Another study by Kirkpatrick (1977) showed similar results: less than half of those surveyed felt that regular class placement with or without supportive services was the most appropriate setting; 82% felt that it would be necessary to reduce class size; over half felt they would participate in in-service training if available.

A study by Warnock (1979) of 84 special education administrators in the State of Oregon was conducted for the purpose of determining the kinds of problems associated with integrating educable mentally retarded (EMR) students into regular classrooms. The major problems were identified as: changing attitudes toward EMR students, individualizing instruction, effective use of materials and additional staff and consultants, along with the need for intensive in-service.

Again, these studies revealed a similar theme: attitudes, smaller class size, in-service training, support services. It is my feeling that these variables can be dealt with most effectively at the building level and that the key person is the building administrator. This individual has much control over:

- the building climate (whether it is positive, negative or accepting)
- involving teachers in administrative decisions
- determining class size
- providing pertinent in-service training
- following through with adequate support services.

Summary

Teacher attitudes and behaviors are major determinants of the environment in which handicapped youngsters must function. It is essential to the well-being of all students, the nonhandicapped as well as the handicapped, that we recognize the dilemma of regular class teachers and then take steps to remedy their perceived needs and concerns. It must be realized that the success of mainstreaming is dependent on the ability and readiness of regular educators to accommodate the mandated change. The intent of P.L. 94–142 can be destroyed if we do not follow through with adequate support services; additional training, both pre-service and in-service; and a more positive attitude toward the potential of handicapped youngsters. If we fail, many handicapped students will experience a painful and frustrating educational experience in the name of humanizing education.

References

Hudson, F.; Graham, S.; Warner, M. "Mainstreaming: An Examination of the Attitudes and Needs of Regular Classroom Teachers." *Learning Disability Quarterly.* Vol. 2, Summer 1979

Kirkpatrick, Ruth L. "Assessing Regular Classroom Teacher Attitudes Toward Physically Handicapped Children." *DOPHHH J.* V3N2, pp. 28–30, Winter 1977.

Vacc, Nicholas A. and Kirst, Nancy. "Emotionally Disturbed Children and Regular Classroom Teachers," *The Elementary School Journal,* March 1977, pp. 309-17.

Warnock, Nancy J. "Making General Education 'Special.'" *Education and Training of the Mentally Retarded;* VII N4, p. 304–307, Dec. 1976.

Audrey Springs Anderson
is currently Associate Director for Academic Affairs
at an Educational Opportunity Center
which is part of the State University of New York system
in Syracuse, N.Y.
Just prior to this position, she was the Coordinator of the Dean's Grant
at the College of Education, University of Maryland.

Implementing Public Law 94–142:
Focus on an Organizational Model and Public School Administration

Alice D. Daum

Introduction

A GROWING TREND in education during recent years has been to meet the needs of the handicapped more effectively. This trend manifested itself in major judicial decisions and legislative action at federal and state levels. The passage of Public Law 94–142, The Education for All Handicapped Children Act, by the United States Congress in November 1975 was the culmination of several decades of litigation and state legislation, and established the right to a free and appropriate public education for all handicapped children and youth. In Maryland, such judicial and legislative action was begun in July 1972 when a suit was filed in a federal court by the Maryland Association for Retarded Children (M.A.R.C.) on behalf of fourteeen handicapped and retarded children. Charging a violation under the equal protection and due process provisions of the Fourteenth Amendment of the Federal Constitution, the M.A.R.C. suit sought to force the state, local school districts and state institutions to provide a free education for all handicapped children, including the severely retarded. The federal court deferred action on the constitutional question until state courts offered a definitive interpretation of a 1973 Maryland State Law on the subject.

That law, passed by the Maryland General Assembly in 1973 stated that ". . . the State and its several counties (defined as including Baltimore City) shall make available free educational programs for all handicapped children, including those who are severely handicapped" (Section 106D of Article 77 of Maryland Annotated Code). The law provided for the state Board of Education to adopt a Bylaw ". . . for the identification, diagnosis, examination, and education of all children in the State from birth through age twenty (20) who are found to be in need of special education services" (Article 77, Section 106D, 1973).

In April 1974, Judge John E. Raine, Jr. of the Circuit Court of Baltimore County (Maryland) in the case *Maryland Association for Retarded Children* v. *State of Maryland* (Equity No. 100–184–77676), ruled that ". . . appropriate standards must be promulgated by the State

Department of Education, acting alone or in conjunction with the Mental Retardation Association, for all educational facilities for the mentally retarded by September 1, 1974, and compliance with the standards must be effective by September 1, 1975." In summary, the Raine Decree, dated April 9, 1974, modified on May 3, 1974, and May 31, 1974, provided that nothing contained in the 1973 State law modified the requirements of Section 73 and 99 of Article 77, which stated that all children, including handicapped children, were entitled to free and appropriate educational services.

Subsequently, the Maryland State Department of Education Bylaw (13.04.01, Programs for Handicapped Children) required local education agencies (LEA's) to submit by October 1, 1975, a five-year plan establishing goals for the administration of special education services. The Bylaw required county departments of education to develop five-year plans to phase in new programs for the delivery of free appropriate education for all handicapped children ages five through 18 years old residing within their boundaries and that all handicapped children through age twenty be appropriately served by September 1, 1980.

Beginning with FY 1975, all twenty-four local education agencies of Maryland had submitted five-year plans to the State Department of Education, Special Education Division, for the development and implementation of special education and related services for handicapped children.

Concurrent with these activities within the State of Maryland, a nationwide momentum for the education of handicapped children was being substantially shaped and defined by judicial and legislative decisions. The culmination of that momentum was the passage of Public Law 94–142 which established at the federal level the right of all handicapped children and youth to an appropriate and public education. Public Law 94–142 defined handicapped children as ". . . those children needing special education and related service who fall into the categories of mental retardation, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, other health impaired, deaf blind, multi-handicapped or as having specific learning disabilities." Public Law 94–142 had far-reaching impacts which included:

- "to assure that all handicapped children have available to them a free appropriate public education which emphasizes special education and related services designed to meet their unique needs;

- to assure that the rights of handicapped children and their parents or guardians are protected;
- to assist states and localities to provide for the education of all handicapped children; and
- to assess and assure the effectiveness of efforts to educate handicapped children'' (Section 601(c)).

Public Law 94-142 placed the burden of providing educational services to handicapped children on state and local education agencies in that the states were required to develop plans, policies, and implementation strategies to comply with the law. In FY 1978, the Maryland State Bylaw was expanded and revised to meet the requirements for state approval established by the Bureau of the Education for the Handicapped under Public Law 94-142. The regulation of the law stated that any state which desired to receive funds under Part B of the act must submit an annual program plan which outlined policies and procedures for attaining the full educational opportunities, goals, and other requirements of Public Law 94-142.

The development of five-year plans, as required by the State Bylaw, and the annual program plans, as required by Public Law 94-142, necessitated major changes in the delivery of services to handicapped children and youth. The end of the first five-year period as established by the Maryland State Bylaw and Public Law 94-142 occurred on September 1, 1980.

Rationale for Study

The purpose of this study was to identify and analyze efforts by a local educational agency within Maryland to develop and implement the comprehensive five-year plan and subsequent annual plans for special education to meet the needs of the handicapped as required by the externally mandated legislative actions and judicial decisions. The study focused upon efforts of central office and building-level administators during implementation, and attempted to identify implementation policies and strategies perceived as useful by administrators.

The study sought to assess the organizational growth and development of the selected local education agency as the system developed and implemented policies and programs for handicapped children. The research focused on the stages of implementation efforts of the system five years after the passage of external mandates public Law 94-142 and the State Bylaw.

Review of Pertinent Literature

In a research study of nine major medical centers, Weisbord, Charns, and Lawrence (1977) concluded that there are major relationships that administrators should consider as they manage organizations that will function well in dealing with specific environmental conditions. Contingency studies of industrial organizations conducted by Lawrence and Lorsch (1967, 1969) emphasized the study of environmental and task variables. The studies were contigent in the sense that they attempted to understand and explain how organizations function under differing conditions. Although the conditions varied, all came from "outside" the organization as usually defined, i.e., from the environment or context that the organization has chosen as its domain of operation. Lawrence and Lorsch (1967) treated these outside contigencies as both constraints and opportunities that influenced the internal structure and process of the organization.

As a result of their research, Lawrence and Lorsch (1967) developed a contigency theory of organization which suggested that specific organizational attributes are related to certain external characteristics of the immediate environment or the nature of the organization's primary task. According to this contigency theory, organizations become increasingly complex in response to pressures generated in their external and internal environments. In educational organizations, these pressures most often arise from legal, social, and political forces. Educational institutions have been responsive to interest groups who exerted influence at federal, state, and local levels to bring about legal and social policy changes.

The central purpose of the research of Weisbord et al. (1977) was the extension of contigency theory and its application to analysis of medical center organization. Using the contigency theory as developed by Lawrence and Lorsch in studies of industrial firms, Weisbord, Charns, and Lawrence sought to validate the theory with data drawn from nine major medical centers (Charns, 1974), by using a model to study the multiple organizational functions of medical centers. The research design included intensive interviews and observations, and development of a comprehensive questionnaire which was used to validate and refine a model used in their research to relate task perceptions to organizational performance within medical schools.

The organizational Diagnosis Model was developed and validated by Weisbord, Charns, and Lawrence (1976) as a result of this intensive research of organization and management in these nine major academic medical centers. The model was further refined by Weisbord (1978) in an

organizational diagnosis "module" validated in research at the NTL Institute Professional Development Learning Community at Bethel, Maine. The model provided a method for in-depth study of the environments of an organization and the tasks performed. In this study, the use of the Organizational Diagnosis Model (Weisbord, 1978) provided a means by which to study six internal components of one local education agency and the influences of the environment, as the LEA developed procedures and policies during the implementation of Public Law 94-142. The components studied were: (1) the purpose, (2) the structure, (3) the relationships, (4) the leadership, (5) the rewards and incentives, and (6) the helpful mechanisms within the organization.

The purpose of an organization is defined as the psychological negotiation between ". . . 'what we want to do' (our beliefs, values, satisfactions) and 'what we have to do' (demands of the environment, survival needs)" Weisbord, 1978, p. 18). This negotiation always occurs, whether or not people are conscious of it. Purpose leads to establishing priorities for achieving goals, which make up the organization's agenda. Purpose is frequently referred to as goals, objectives, or mission, and relates to the organization's mission and priorities with the assumption that the purpose is responsive to environmental conditions.

The *structure* of an organization maximizes benefits for both the individual and the organization ". . . and should be based upon the number and type of tasks performed, the people who perform those tasks, and the situation" (Lawrence and Lorsch, 1969, p. 158). The structure component of this model was built around programs or projects and the responsibility and division of labor among the people to accomplish the necessary tasks and functions. According to Gulick and Urwick (1937) there are three main ways to structure an organization: (1) by function—specialists working together; (2) by product, program or project—multi-skill teams work together; and (3) matrix structure—combining the best of both. The greatest advantage of the matrix structure is its ability to adapt to complex and changing environments (Weisbord, 1978).

The *relationship* component refers to the linkages between the various parts of the organization and the coordination between differentiated units. This component deals with the relationships between individuals and group within the programs and addresses the areas of interdependency, integration, conflict, and conflict resolution. The quality of relationship is a vital part of any program since it is the "substance" that holds the parts together (Weisbord, 1978).

Evidence in the literature shows that conflict is greater among individuals and groups that are interdependent and that need each other; the more interdependence there is, the greater the conflict (Robbins, 1974). Lawrence and Lorsch (1967) also noted that differentiation among tasks, individuals, and groups is often a major source of conflict. The intensity of conflict is greatest at the point of coordination or integration of those tasks, individuals and groups. Thus, the persons responsible for integration must possess skills needed to manage conflict, which includes selection of the mode of resolution that contributes to the quality of relations among individuals or groups (Weisbord, 1978).

The *leadership* component of the model serves to "scan the entire environment and act on behalf of the whole . . . keep the entire organization in balance . . . and create a dynamic state of co-alignment among these components" (Weisbord, 1978, 1. 42). The integrative function coordinates and establishes unity among the various elements of an organization. Charns (1974) identified the characteristics of an effective integrator as one who has a balanced orientation, has influence based on competence, and has expert skills in communication and conflict management. Lawrence and Lorsch (1967) maintain that the greater the need for interdepartmental collaboration ". . . the more need there is for the integrative roles to be formally identified so that such activities are seen as legitimate" (p. 144).

Helpful mechanisms are the methods or procedures that enable people in an organization to perform work they and others consider valuable. It includes activities necessary to accomplish tasks and to satisfy mutual expectations between the individual and the organization. The mechanism may be formal or informal, tangible or intangible, but should be designed to assist members in performing those tasks required of them (Weisbord, 1978). The variables addressed in this component of the model are policies, procedures, committees, and task forces.

Rewards and incentives include those factors necessary to accomplish tasks and to satisfy mutual expectations between the organization and the individual (Weisbord, 1978). Having a formal reward system in no way guarantees that people will feel or act as if they are rewarded (informal). Maslow (1954) explained the problem in terms of a "hierarchy of needs" which, once satisfied, become essential. These needs are categorized as physiological, safety, belongingness, esteem, and personal growth. Herzberg (1959) showed that meeting basic needs, i.e. "hygiene factors," is necessary for morale but not sufficient for motivation to carry out creatively those tasks an organization needs done. The reward and incen-

tive component of the model reinforces the point that the "fit" between the individual and the organization improves when there is a chance for growth, responsibility, and achievement. A reward system that pays off in fringe benefits and salary alone may be inadequate if people do not perceive their work as valuable and as a chance for personal growth.

The Organizational Diagnosis Model provided a means by which to study the relationships among six internal components of an organization (purpose, structure, relationships, leadership, helpful mechanisms, and rewards and incentives), and environmental demands. For Weisbord (1978), "Environment describes forces difficult to control from inside, but which nonetheless demand a response—customers, unions, students, families, clients, government. Further, it is not always clear where the boundaries are or should be" (p. 10).

Methodology

The study presented here was a case study of one large suburban LEA five years after implementation of Public Law 94-142. Research employing the case study approach involves in-depth description and analysis of one or more situations (Jones, 1975). In the case study method, inputs are derived from questionnaires and/or interviews with a variety of participants, from examination of documents, and from some degree of immersion by the researcher into the situation being investigated. The result is a detailed description of the occurrences and dynamics of the situation studied.

Data for this study were obtained from a questionnaire administered to all members of the appointed board of education, to selected central office administrators, and to building-level administrators. Focused interviews of selected respondents were conducted to obtain more detailed information concerning implementation strategies. Specific documents were examined and reviewed to achieve an understanding of the processes experienced by the LEA and the situation surrounding implementation of the external mandate.

Documents

These documents described the formal policies which guided the implementation efforts within this local education agency. Additionally, a study of these documents contributed to an understanding of the background and processes used in developing the plans for special education services and helped to describe how the system attempted to meet the requirements of Public Law 94-142 and the Maryland State Bylaw.

- Comprehensive Five Year Plan for Special Education Services, Local Education Agency, 1975.
- Annual Local Comprehensive Plans for Special Education Services, Local Education Agency, 1976-1980.
- Maryland State Department of Education Bylaw (13.04.01.01 Programs for Handicapped Childen, 1974) and revision, 1978.
- Report of the Governor's Commission on Funding the Education of Handicapped Children, Phase I, 1976; Phase II, 1977.
- Raine Judicial Decree (Equity No. 100–184–77676, Maryland Association for Retarded Children v. State of Maryland) April 1974.
- Public Law 94–142, the Education for All Handicapped Children Act, and Federal Regulations 1975.

Interviews

Interviews were conducted with the central office administrators who had been in their current position at the time the Raine Decree, the Maryland Bylaw, and PL 94–142 became effective (i.e., between 1973 and 1976), and who were directly involved in the development of the five-year and subsequent annual plans.

Questionnaire

A questionnaire was constructed to obtain data that would provide insight into administrative procedures and strategies that the study population believed contributed to the successful implementation within the selected LEA in complying with mandates from the external environment. The components of Weisbord's Organizational Diagnosis Model (Weisbord, 1978) provided the means for selecting the specific variables to be considered and for guidance in the development of specific questions to be included in the questionnaire.

The Organizational Diagnosis Model consists of six components: (1) the purpose, (2) the structure, (3) the relationships, (4) the leadership, (5) the rewards and incentives, and (6) the helpful mechanisms. Specific questions were developed around each of these components. Within each of the six major components, four subcomponents were identified to further refine the model and to assist in the development of the questionnaire. Figure 1 represents the titles of the major and sub-components of the model.

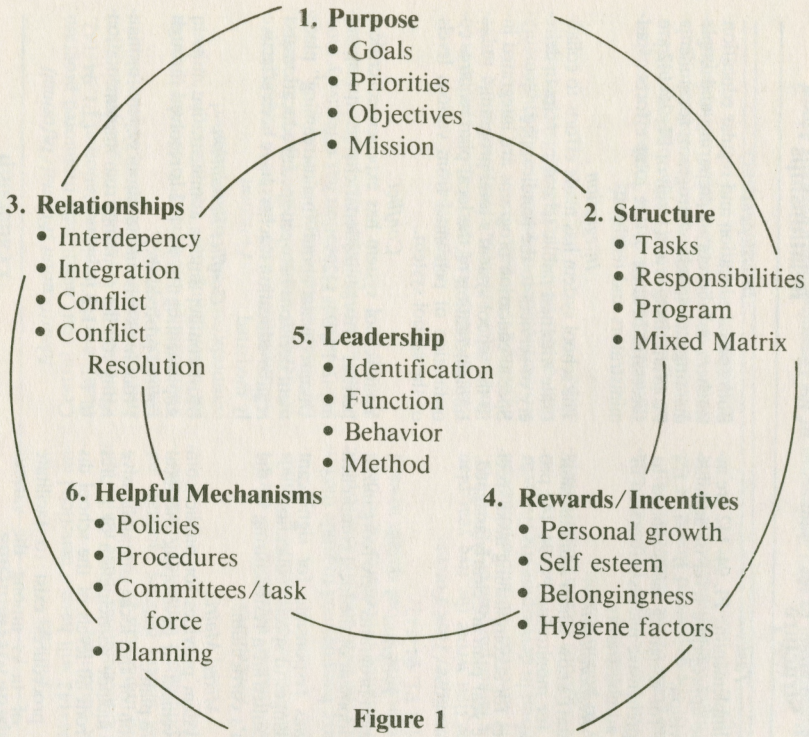

Figure 1
Organizational Diagnosis Model

The questionnaire contained six major components: Structure, Relationships, Rewards and Incentives, Helpful Mechanisms, Purpose, and Leadership. These six major components were divided into the 24 variables used by Weisbord in his research study at NTL (1978). Questions were constructed so as to use the model as a format for studying the processes which occurred as the LEA dealt with implementation stages of PL 94-142. Table 1 shows the relationships of the questions to the components of the model.

The questionnaire consisted of fifty-five fixed alternative (or closed)questions each with replies from which the participants were to choose the response closest to their position in terms of the four degrees of agreement of disagreement. A four-point Likert-type scale was used with the following alternatives: *SD* strongly disagree, *D* disagree, *A* agree, and *SA* strongly agree (Tuckman, 1978).

Purposes

Goals

The goals of the five year plan are consistent with established school system priorities.
The goals of the five year plan of special education for the school system were defined to reflect the intent of PL 94–142.

Priorities

Goals were prioritized in the implementation of program changes relating to PL 94–142.
PL 94–142 has had a great impact on allocation of financial resources in the school system.

Objectives

The objectives of the five year plan were congruent with the goals of the school system.
Changes in the special education curriculum were related to the local comprehensive plan.

Mission

The special education program changes are compatible with the established goals of the school system.
The stated mission of the local comprehensive plan is consistent with the philosophy of special education in the school system.

Structure

Tasks

The tasks for implementing PL 94–142 are assigned at the appropriate level of administration/supervision.
Responsibility for assigning tasks related to the local comprehensive plan is a function of central office administrators.

Responsibilities

Professional staff know which administrator is responsible for monitoring PL 94–142 program activities.
Responsibilities for accomplishing tasks specified in the five year plan are clearly assigned.

Program

Special education programs were reorganized after the development of the local comprehensive plan.
PL 94–142 was responsible for significant curriculum changes in special education.
PL 94–142 resulted in a restructuring of the school system's curriculum.

Mixed Matrix

The school system provides for public/community involvement in developing the local comprehensive plans.
Implementation of the local comprehensive plan did *not* include participation of professional staff from all levels of the school district.
Management procedures exist to facilitate coordination of tasks among the various levels of the school system.

Relationships

Interdependency

Both special education and regular education teachers collaborate in preparing and implementing individualized programs for students.
Program changes as a result of PL 94–142 are successful because of the joint efforts of administrators and teachers.

Integration

The school system has made efforts to collaborate with non-public school agencies in delivery of services to the handicapped.
Special education programs are integrated into the school system's total program.
Implementation of the local plan requires coordination of personnel from various levels of the school system.

Conflict

Your school system has experienced critical periods of organizational change in responding to PL 94–142.
Disagreements about "mainstreaming" placement decisions between special education and regular education teachers have been effectively mediated.

Conflict Resolution

Most conflict among administrative units in implementing PL 94–142 is resolved through formal procedures.
Procedures exist in the school system for managing conflict resulting from implementation of PL 94–142.

Rewards/Incentives	Helpful Mechanisms	Leadership
Personal Growth Commitment to implementation activities contributes to professional advancement possibilities within the system. Regular classroom teachers consider their involvement in implementing PL 94–142 as enhancing their professional growth.	*Policies* Public Law 94–142 will have a beneficial impact on public education. The Board of Education has made major policy decisions to implement PL 94–142. County school system policies facilitate administrative compliance with the federal mandate, PL 94–142.	*Identification (Formal/Informal)* Central staff adequately monitored program changes in the implementation of PL 94–142. Principals are aware of the problems experienced by teachers involved with the implementation of PL 94–142. The Board of Education provides the impetus for determining how the goals of the local comprehensive plan are established.
Self Esteem Teachers and building staff are given release time from daily tasks to work on implementation of special education programs. Central office staff are primarily responsible for fostering professional development activities in the understanding of PL 94–142.	*Procedures* Administrators find it necessary to depart from routine procedures to meet the demands of PL 94–142. Procedures have been defined to guide the implementation of the local comprehensive plan. Formal administrative procedures have been developed to move the school system toward compliance with PL 94–142.	*Function* Administrators used the basic requirements of the local comprehensive plan as a catalyst for school system improvement. The Board of Education has effectively monitored implementation activities in the school system.
Belongingness Sufficient incentives are provided to facilitate change in the school system in the implementation of PL 94–142. Implementation of a mandate such as PL 94–142 stimulates a school system to innovate and change.	*Committee/Task Forces* The task force that wrote the five year plan understood the larger purpose of PL 94–142. Those persons involved in implementation were also involved in developing the five year plan. Political interest groups exert a positive influence on policy in public schools.	*Behavior(s)* Central office staff know about special problems which teachers experience while implementing PL 94–142. Reinterpretation of goals during implementation of PL 94–142 reflected effective leadership.
Hygiene Factors Participation in implementation by administrators fosters their professional development. The Board of Education has been supportive of curriculum changes necessitated by PL 94–142.	*Planning* The objectives of the five year plan were congruent with the goals of the school system. The members of the appointed Board of Education understand the national scope of the implications of PL 94–142.	*Methods* Innovative administative methods contributed significantly to effective implementation Lack of familiarity with the federal regulations of PL 94–142 created administrative problems.

Table 1

Question-Statements on Questionnaire Showing Their Relationship to the Components of the Organizational Diagnosis Model

Data Collection Procedures

The questionnaire was distributed to the 182 participants through the LEA's interdepartmental mail system. The rate of return was calculated at two-week intervals and all returns were tabulated six weeks after the initial contact was made with participants. Data were obtained from 150 or 82% of the study population.

The interviews were guided by a set of general questions intended to allow the respondents to share freely experiences and information they felt pertinent to the implementation process.

Results

An analysis of the demographic data revealed that the study population had been in their present positions a mean of 9.9 years, ranging from 1 to 33 years. However, these same people had been in this selected school system a mean of 22.4 years, ranging from 2 to 38 years. These data also indicated that many of the individuals had moved into administrative positions in recent years, since they had been in the education profession an average of 24.7 years, ranging from 8 to 38 years.

Fifty-one percent of the study population was less than fifty years of age, and had been involved as administrators in the implementation of PL 94–142 an average of 4.24 years, ranging from 2 to 9 years. From additional comments written on the questionnaire a few central office administrators indicated they had been involved in planning activities associated with PL 94–142 2–5 years before it became law in 1975. Analyses showed that 60% of the population had earned a master's degree, while 20% had a doctoral degree. The remaining 20% completed 30 graduate hours beyond the masters level.

Questionnaire Data

The questionnaire used the six major components of the Organization Diagnosis Model. Data were analyzed for each major component and variable with the following results.

(1) *Purpose:* Goals, Priorities, Objectives, Mission
The data showed that 85% of the population agreed or strongly agreed with questions pertaining to purposes. 15% disagreed or strongly disagreed.

(2) *Structure:* Tasks, Responsibilities, Programs, Mixed Matrix
The data showed that 65% of the population agreed or strongly agreed with questions pertaining to structure. 35% disagreed or strongly disagreed.

(3) Relationships: Interdependency, Integration, Conflict, Conflict resolution
The data showed that 70% of the population agreed or strongly agreed with questions pertaining to relationships. 21% disagreed or strongly disagreed.

(4) Rewards and Incentives: Personal Growth, Self Esteem, Belongingness, Hygiene Factors
The data showed that 52% of the group agreed or strongly agreed with questions pertaining to rewards and incentives. 48% disagreed or strongly disagreed.

(5) Leadership: Identification, Function, Behavior, Method
The data showed that 72% of the groups agreed or strongly agreed with questions pertaining to leadership. 28% disagreed or strongly disagreed.

(6) Helpful Mechanisms: Policies, Procedures, Committee/Task Force, Planning
The data showed that 73% of the group agreed or strongly agreed with questions pertaining to helpful mechanisms. 27% disagreed or strongly disagreed.

Discussion and Conclusions

Findings of this study indicated that administrators in one selected LEA generally agreed that variables utilized in the Organizational Diagnosis Model were important to implementation efforts of PL 94-142. Extrapolation from these findings allows examination of the unique contribution each variable made in selecting strategies and procedures perceived as useful by the administrators. Included in this discussion will be conclusions drawn from a review of the documents, from the interviews, and from the data on the questionnaire.

It was found that the administrators generally agreed that clearly stated goals for implementation of special education programs which were compatible with the established goals of the school system gave a sense of direction to the purposes of implementing PL 94-142. Although several persons commented that they were not fully aware of a specific five-year plan, their responses indicated that they were aware that goals, priorities and objectives had been established by the system and clearly contributed to the purpose of an overall plan for providing special education services as mandated by PL 94-142 and the State Bylaw. Weisbord (1978) indicated that purpose is frequently referred to as goals, objectives, or mission and ". . . relates to the organization's mission and priorities with

the assumption that the purpose is responsive to environmental conditions" (p. 10). The administrators in this LEA perceived the usefulness for implementation of special education programs of having clearly defined goals and objectives compatible with the mission of the total organization. It appears that awareness of the general purpose of the system's special education goals contributed to participation in implementation at their level of the organization.

The administrators clearly agreed that responsibility for assigning and completing tasks was an essential strategy in making program changes necessary for implementation to occur. Furthermore, they felt that the responsibility for accomplishing tasks was and should be shared at the appropriate administrative level. Their responses indicated that they felt strongly that existing programs were reorganized or structured to accommodate special education programs and therefore new organizational structure emerged.

However, they appeared to support the organizational changes as long as the basic structure remained and program changes involved specialists and regular educators working together. It can be concluded that the administators felt the mixed-matrix structure which combines specialists and multi-skill teams working together, was best to accommodate the redesign of programs requiring some structure changes within the organization. This conclusion is supported in the literature by Weisbord and Lawrence (1976) who found that the greatest advantage of the matrix structure is the ability to adapt to complex and changing environments. Furthermore, Baldridge and Deal (1975) stress that organizational structures are often changed to support programmatic changes caused by forces in the external environment of an organization.

The quality of relationships in an organization is a vital part of any program since, as Weisbord defines it, relationships provide the linkage between various parts of the organization and the coordination between differentiated units. The administrators generally agreed that professionals in regular and special education at various levels of the school system were cooperating in providing services to special education students. Specifically, they felt both teachers of special students and non-handicapped students were collaborating in preparation of individualized program plans but that more release time from teaching should be allowed for this activity.

A conclusion to be drawn is that administrators found it most helpful when personnel program efforts and services were integrated and coordinated at various levels. They indicated however, that this relationship

does not always exist and it becomes a vital missing link in implementation efforts. As would be expected disagreements most often resulted from placement decisions of special education students.

When coordination and integration did not occur successfully, conflict between individuals and groups sometimes resulted. However, the administrators generally agreed that such conflicts were effectively handled by a person at appropriate level of administration, usually through formal procedures, and with a great deal of skill by the leader. Evidence in the literature supports this conclusion. Lawrence and Lorsch (1967) found that the intensity of conflict is greatest at the point of coordination or integration of tasks, individuals and groups, and persons responsible for integration must possess a unique set of skills to manage conflict resolution.

The administrators generally agreed that leadership was evident throughout the planning and implementation processes, but that the effectiveness of that leadership differed at various levels of the organization. They indicated that they strongly agreed that leadership at the central office level provided the necessary integrative function to coordinate and establish unity among the various levels. It can be concluded that leadership from this level was perceived by other administrators as a helpful strategy for moving the system through crucial stages of change, innovation, and implementation. The evidence of strong leadership at the central office level appeared to influence the leadership behavior at the building level as is evidenced by the fact that the administrators strongly agreed that they were aware of the problems experienced by teachers trying to fulfill implementation activities in the classroom. It was concluded that many had modified their own leadership skills to accommodate necessary innovative administrative methods for meeting the demands for change imposed by PL 94-142.

A conclusion drawn is that leadership at all administrative levels was perceived as crucial for keeping the system moving towards implementation of a mandate which had far-reaching impact on all levels of the system. Evidence in the literature supports this conclusion. Weisbord (1978) stated that ". . . the leadership component of the model serves to scan the entire environment and act on behalf of the whole . . . keep the organization in balance . . . and create a dynamic state of coalignment among the other components"(p. 149).

In this study involvement by administrators and regular classroom teachers in implementation activities of PL 94-142 was perceived as not contributing to their personal or professional growth, nor did they feel

there were sufficient incentives or rewards for becoming involved. Providing teachers with time away from regularly scheduled teaching responsibilities was perceived by the administrators as a useful strategy, not only for accomplishing the tremendous paper work required with the special education programs but as a way to contribute to the personal growth and self-esteem of teachers. The administrators also felt that because changes were externally imposed on them and the teachers, the feeling of belongingness to the implementation efforts might be missing. It can be concluded that in general, people are likely to be more positively oriented to a plan of change if they have had an opportunity to participate in the formulation of the changes, even if their role in the formulation of the policy was fairly limited. Participation at the formulation stage might have contributed to self esteem, personal and professional growth and a sense of belongingness for accomplishing the tasks.

The initial formulation of implementation policy for PL 94–142 provided little opportunity for involvement at the LEA and building level. Therefore, administrators in the LEA have the opportunity to contribute to personal and professional growth by finding strategies for involvement which may be useful in satisfying the expectations of individuals involved in implementation activities. The literature supports this conclusion in that a reward system that pays off in fringe benefits and salary alone may be inadequate if people do not perceive their work as valuable and as a chance for personal growth (Weisbord, 1978).

Helpful mechanisms are formal or informal procedures that enable people in the organization to perform their work. The administrators in this LEA found formal policies and procedures more helpful as strategies in implementation efforts than informal committees and task forces. They appeared undecided as to whether PL 94–142 will have a beneficial impact on public education, and if they agreed that this was true the majority of the participants qualified their agreement in some way. They indicated definite agreement that the LEA was doing all possible to facilitate compliance and implementation with the federal mandate. The administrators found formal policies and procedures to be most helpful in this effort. The conclusion to be drawn is that even though the work of committees and task forces may be to plan implementation strategies, the administrators in this study perceived formal policies and procedures as more useful strategies to use during stages of implementation.

Summary

The conclusions of this research effort suggest some practical recommendations for administrators in implementing external mandates. The conclusions show that implementation of Public Law 94–142 had a major effect on one LEA, had involved a significant number of people, had affected how the organization achieved its goals, and required large investments in terms of personnel, time, and money. Such conclusions imply a need to know more about how to implement a major external mandate. Administrators should recognize that implementation requires establishing rules and administrative procedures commensurate with the established goals and mission of the LEA. Implementation can then be viewed as a process of interaction between the setting of goals and actions geared to achieving them by the participants.

Another recommendation for administrators at local levels is to recognize that implementation of external mandates has been and will continue to be an evolving process often following a pattern of definite stages. It can be assumed that the types of services being provided will vary among local agencies and are often dependent upon such factors as size and population, organization and administration of services, types and intensity of services needed, and types of services historically delivered. It is essential to remember, therefore, that particular issues in the implementation of PL 94–142 may only be resolved in a developmental, on-going sequence. Administrators should remember that the knowledge base about this enormous educational event will be a slow, cumulative process and the study of implementation requires understanding that apparently simple sequences of events depend on complex chains of reciprocal interactions.

Another recommendation to emerge from this study was that administrators might better deal with the implementation process if time is devoted to consideration of strategies which can be perceived as useful to the persons directly involved in implementation. It should be remembered that strategy selection involves judging which approach or combination of approaches will be best, given the situational opportunities and constraints. Practitioners in administration need to understand that they possess knowledge and skills necessary to consider the liabilities and assets of strategies needed to plan and implement educational programs. As this research indicated administrators within an LEA considered to have exemplary implementation, perceived as useful specific streategies and procedures adopted by the organization.

Research needs to be conducted in evaluating what determines "success-

ful"implementation in any given LEA. Documentation would provide a knowledge base available for utilization by administrators concerned with having information necessary to make implementation decisions. School systems are frequently forced to present a defensive posture, having to explain why a decision was made long after the fact. Administrators can establish credibility by being able to state from the outset that particular implementation practices emerged from research based on evaluation of what has been determined as successful implementation.

References

Abbott, M. Hierarchial impediments to innovation in educational organizations. In M. Abbott and J. Lovell, (Eds.), *Change perspectives in educational administration.* Auburn: The School of Education, Auburn University, 1965.

Argyle, M. The social psychology of social change. In T. Burns and S. B. Saul, (Eds.), *Social theory and economic change.* London: Tavistock Publications, 1967.

Baldridge, V. *Power and conflict in the university.* New York: John Wiley and Sons, 1971.

Baldridge, V. and Deal, T. (Eds.). *Managing change in educational organizations.* Berkeley: McCutchan Publishing Corp., 1975.

Bardach, E. *The implementation game: what happens after a bill becomes a law.* Cambridge: MIT Press, 1979.

Bennis, W., Benne, K., and Chin, R. (Eds.). *The planning of change.* New York: Holt, Rinehart, and Winston, 1968.

Berman, P. and McLaughlin, M. et. al. *Federal programs supporting educational change: the findings in review.* Santa Monica, CA: The Rand Corporation, 1975.

Boston, B. R. *Education policy and the education of all handicapped children act* (PL 94-142). Washington, D.C.: Institute for Educational Leadership, 1977.

Brickell, H. Organizing New York state for educational change. Albany, N.Y.: State Department of Education, 1961.

Burns, T. and Stalker, G. *The management of innovation.* London: Tavistock Publications Limited, 1961.

Chandler, A. *Strategy and Structure.* Garden City, New York: Double day and Company, 1963.

Charns, M., Lawrence, P., Weisbord, M. and Stone, R. *Comparative study of organization and management in medical centers and associated organizations.* Wynnewood, PA: Organization, Research, and Development, 1974.

Charns, M., Lawrence, P., and Weisbord, M., Organization multiple-function professionals in academic medical centers. In P. Nystrom and W. Starbuck, (Eds.). *Studies in the management sciences: prescriptive models of organizations.* New York: North-Holland Publishing Co., 1977.

Derthick, M. *New towns—in town.* Washington, D.C.: Urban Institute, 1972.

Dixon, W., Brown, M. (Eds.), *Biomedical computer programs P-series* (BMDP). Berkley, CA: University of California Press, 1979.

Fantini, M. and Weistein, G. Strategies for initiating educational change in large bureaucratic school systems. Paper presented to Public Policy Institute, Columbia University, Teachers College, 1963.

France, J. Some simple procedures for handling missing data in multivariate analysis. *Psychometrika,* Vol. 41, No. 3. September 1976.

Ginzberg, E. and Reiley, E. *Effecting change in large organizations.* New York: Columbia University Press, 1957.

Good, C. and Scates, D. *Methods of research.* New York: Appleton, Century, Crofts, Inc., 1954.

Gross, N., Giacquinta, J., and Bernstein, M. *Implementing organizational innovations.* New York: Basic Books, 1971.

Gulick, L. and Urwick, L. (Eds.). *Papers on the science of administration.* New York: Institute of Public Administration, 1937.

Havelock, R. *The change agent's guide to innovation in education.* New Jersey: Educational Technology Publications, 1973.

Heathers, G. Influencing change at the elementary level. In R. I. Miller, (Ed.). *Perspectives on educational change.* New York: Appleton, Century, Crofts, 1967.

Herriott, R. E. and Gross, N. (EDS). *The dynamics of planned educational change.* Berkeley: McCutchan Publishing Company, 1979.

Herzberg, G., Mausner, B., and Snyderman, B. *The motivation to work.* New York: John Wiley and Sons, 1959.

Jones, R. *Public sector labor relations: an evaluation of policy related research.* Belmont, MA: Contract Research Corporation, 1975.

Jung, C. The trainer chage-agent role within a school system. In G. Watson, (Ed.). *Change in school systems.* Washington, D.C.: National Training Laboratories, NEA, 1967.

Katz, D. and Kahn, R. *The social psychology of organizations.* New York: John Wiley and Sons, 1966.

Kirp, D., Kuriloff, P., and Buss, W. Legal mandates and organizational change. In *Issues in the classification of children.* San Francisco: Jossey-Bass, 1975.

Kirp, D. and Yudolf, M. *Educational policy and the law.* Berkeley: McCutchan Publishing Company, 1978.

Lawrence, P. and Lorsch, J. *Organization and environment: managing differentiation and integration.* Boston: Harvard University press, 1967.

Lawrence, P. and Lorsch, J. *Developing organizations: diagnosis and action.* Reading, MA: Addison-Wesley Publixhing Co., 1969.

Leavitt, H. *The social science of organizations.* Englewood Cliffs, NJ: Prentice Hall, 1963.

Leavitt, H. Applied organizational change in industry: structural, technological, and humanistic approaches. In J. G. March (Ed.), *Handbook of organizations.* Chicago: Rand McNally, 1965.

Levin, B. *The courts as educational policymakers and their impact on federal programs.* Santa Monica, CA: The Rand Corporation, 1977.

Lippett, R., Benne, K. and Havelock, R. A comparative analysis of the research utilization process. Paper presented at American Educational Research Association, Chicago, Ill.: 1966.

March, J. and Simon, H. *Organizations.* New York: John Wiley and Sons, 1958.

Maslow, A. *Motivation and personality.* New York: Harper and Brothers, 1954.

Miller, E., and Rice, A. *Systems or organization: the control of task and sentient boundaries.* New York: Barnes, Noble Press, 1967.

Miller, R. An overview of educational change. In R. Miller, (Ed.). *Perspectives on educational change.* New York: Appleton, Century, Crofts, 1967.

Parloff, M. Influencing change at the secondary level. In R. Miller, (Ed.). *Perspectives on educational change.* New York: Appleton, Century, Crofts, 1967.

Pressman, J. and Wildavsky, A. *Implementation.* Berkeley: University of California Press, 1973.

Robins, S. *Managing Organizational conflict.* Englewood Cliffs, NJ: Prentice Hall, 1974.

Sarason, S. and Doris, J. *Educational handicapped, public policy, and social history.* New York: The Free Press, 1979.

Selltiz, C., Jahoda, M., Deutsch, M., and Cook, S. *Research methods in social relations* (2nd ed.). New York: Holt, Rinehart, and Winston, 1959.

Selznick, P. *Leadership in administation.* Evanston, IL: Row and Peterson, 1972.

Taylor, F. The Analysis and planning of work processes. In B. Gross (Ed.), *The managing of organizations.* London: Collier-Macmillan Publishers, Inc., 1964.

Thompson, J. *Approaches to organizational design.* Pittsburgh, PA: The University of Pittsburgh Press, 1966.

Trist, E. *Organizational choice.* London: Tavistock Publications, 1963.

Tuckman, B. *Conducting educational research* (2nd ed.). New York: Harcourt Brace Jovanovich, 1978.

Turnball, A., Leonard, J. and Turnball, H. *Educating handicapped children: judicial and legislative influences.* Manuscript submitted for publication, 1980.

Udy, S. H. *Organization or work.* New Haven, Conn: HRAF Press, 1959.

Weber, M. *The theory of social and economic organizations.* Talcott Parsons (Ed. and trans.). New York: Oxford University Press, 1974.

Weisbord, M. *Organizational diagnosis: a workbook of theory and practice.* Reading, MA: Addison-Wesley Publishing Company, 1978.

Weisbord, M., Lawrence, P., and Charns, M. Three dilemmas of academic medical centers. *Journal of Applied Behavioral Sciences,* 1978, 14, pp. 284-304.

Weisbord, M. a mixed model for medical centers: changing structure and behavior. In J. Adams (Ed.), *New technologies in organization development: 2.* La Jolla, CA: University Associates, Inc., 1975.

Wigren, H. The process of change in educational television. In R. Miller (Ed.), *Perspectives on educational change.* New York: Appleton, Century, Crofts, 1967.

Woodward, J. *Industrial organization: theory and practice.* New York: Oxford University Press, 1965.

Zaltman, G., Duncan, R., and Holbek, J. (Ed.). *Innovations and organizations.* New York: John Wiley and Sons, 1973.

Zaltman, G., and Duncan, R. *Strategies for planned change.* New York: John Wiley and Sons, 1977.

Alice Daum completed her doctoral degree
In the Department of Educational Policy, Planning and Administration
at the University of Maryland.
She served as a Faculty Research Assistant in that Department
during the 1980-81 school year.

Comparing Professors' Views with Teachers' Views of Competencies Necessary for Mainstreaming

Madonna Therese Goodspeed

and

Beverly Kay Celotta

THE EDUCATION FOR ALL Handicapped Children Act of 1975, or P.L. 94–142, as it is more frequently referred to, has had a tremendous impact on the field of education. P.L. 94–142 mandates for the handicapped child, regardless of his or her handicap, an education equal to that provided for non-disabled peers. It is to be free, appropriate and provided in a regular school setting whenever possible. An individual education program (IEP) must be written for each child and support services, including but not limited to resource teachers, consultants and materials must be provided. In addition, due process rights must be observed for the children and their parents.

Are teachers prepared to fulfill the requirements of the law? Are professors of education preparing future teachers to have those new competencies required for implementation of the law? For this study, the authors surveyed both teachers in practice and professors of education to answer these questions.

There have been several attempts to catalogue teacher competencies and although the particular knowledge and skills thought necessary vary, there is considerable overlap. Thirteen different categories emerge from our view, eleven of which seemed relevant to teacher functioning. These eleven categories, similar to those catalogued by Rader (1978) are:

1. The Nature of Mainstreaming. This involves an understanding of the concept of mainstreaming, how it came about, the research, laws, guidelines, procedures and terminology (Rader, 1978; Goldman & Masla, 1976; Anderson, 1979; Haisley & Gilberts, 1978).

2. Resource and Support Systems. This involves familiarity with the duties and responsibilities of various human resource support systems and non-human resource systems (e.g., records, professional resources, equipment, workshops and conferences) (Rader, 1978; Haisley & Gilberts,

1978; Redden & Blackhurst, 1978; Anderson, 1979).

3. The Nature of Handicapped Pupils. This involves familiarity with the causes and factors associated with various handicaps, the preferred media and different learning styles of handicapped children (Rader, 1978; Goldman & Masla, 1976; Haisley & Gilberts, 1978; Anderson, 1979).

4. Attitudes. This involves familiarity with the attitudes of a handicapped child, one's self, parents and society regarding the handicapped, and skills to plan for, implement and measure change in attitudes (Rader, 1978; Anderson, 1979).

5. Learning Environment. This involves familiarity with barrier-free legislation, and the ability to plan for and make changes in the physical environment to facilitate instruction of handicapped children (Rader, 1978; Rude, 1979; Haisley & Gilberts, 1978; Anderson, 1979).

6. Assessing Student Needs. This involves familiarity with laws, areas of responsibility, different measures to be used, past history of student, and skills necessary to measure, interpret and report results for handicapped children (Redden & Blackhurst, 1978; Rader, 1978; Goldman & Masla, 1976; Anderson, 1979; Haisley & Gilberts, 1978; Mann, 1977).

7. Goal Setting and Curriculum Selection. This involves familiarity with goal setting, including development of IEP's and the skills necessary to select, modify, and develop curriculum materials for handicapped children (Rader, 1978; Rude, 1978; Mann, 1977; Anderson, 1979; Haisley & Gilberts, 1978; Redden & Blackhurst, 1978).

8. Instruction and Management. This involves the ability to plan and conduct individual and group activities that encourage participation of and interaction with handicapped childen and to have the skills in different behavior management techniques and teaching strategies used with handicapped children (Rader, 1978; Redden & Blackhurst, 1979; Goldman & Masla, 1976; Rude, 1978; Anderson, 1979; Haisley & Gilberts, 1978; Mann, 1977).

9. Evaluating Students. This involves familiarity with norm-referenced and criterion-referenced evaluations, how to select, modify, develop and implement measures for use with handicapped children and the ability to interpret and report results (Rader, 1978; Goldman & Masla, 1976; Rude, 1978; Haisley & Gilberts, 1978; Redden & Blackhurst, 1978; Anderson, 1979).

10. Planning and Administration. This involves the ability to work with others in planning, implementing and evaluating programs for handicapped children (Haisley & Gilberts, 1978; Rader, 1978; Rude, 1978; Anderson, 1979; Mann, 1977).

11. Communication. This involves the ability to analyze and modify one's own techniques and style of communication in order to effectively communicate with handicapped students, parents and other professionals and society (Rader, 1978; Rude, 1978; Hailey & Gilberts, 1978; Anderson, 1979; Mann, 1977; Goldman & Masla, 1978).

As Anderson (1979) has pointed out, many of the competencies catalogued would be expected of any effective teacher. But, lest we overestimate a teacher's competencies, it appears most sensible to discover which of these competencies both teachers and professors think are necessary.

Methodology

Subjects. Subjects for the study consisted of 37 members of the faculty from the College of Education, University of Maryland. Only those members of the faculty who were currently involved in teacher preparation were asked to participate. In addition, 64 regular elementary classroom teachers who had experience with handicapped individuals participated. The teachers were from a larger school system in close proximity to the University. Out of a potential pool of 139 regular classroom teachers, 96 participated. Thirty-two stated that they had no experience with a handicapped individual and their responses were not included in the analysis.

Instrument. The instrument used for the study consisted of a 75-item questionnaire. In selecting items for the instrument, the intention was to be as inclusive as possible. An effort was made to incorporate those competencies deemed necessary by all interested parties. The competencies suggested by Rader's (1978) research involving Dean's Grants studies were converted into items, along with those proposed by other teacher educators, special education personnel, state departments of education, teachers and others with expertise in the area of handicapped children and education (Rader, 1978; Haisley & Gilberts, 1978; Redden & Blackhurst, 1978; Anderson, 1979). The items were grouped into the 11 broad categories detailed in the introductory section of this paper.

Each of the items completed the statement: In order to effectively mainstream a handicapped child, a regular classroom teacher should have the knowledge/skills necessary to: . . .

Subjects were asked to indicate their agreement with "How important is it for a regular classroom teacher to have this particular knowledge/skill?" They were asked to check one of the following: not important, slightly, moderately, very, extremely.

A cover sheet accompanied each questionnaire asking both groups to state their age, sex, number of years teaching and whether they had had experience with a handicapped individual. In addition, the teachers were asked to state the type of classroom assignment (regular, resource or special) while the professors were asked to state their department and position.

Procedures. Upon selection of the items and completion of the design of the instrument, a pilot study was undertaken with graduate students from the College of Education, University of Maryland, who were currently elementary teachers as well. Comments and suggestions were solicited. The revised 75-item instrument was sent to all faculty in the College of Education

Contact was then made with the Research and Evaluation Department of a large school system in close proximity to the University. A proposal was submitted and permission requested to have a sample of their regular elementary classroom teachers participate in the study. After review by the department, the request was granted provided certain modifications were made. Those being that a random sample of nine to 12 schools be selected and approved by the department, that the instrument be shortened, that participation be voluntary and that the participants, the school and the system not be identified.

The instrument was then divided into two forms by placing all odd-numbered items on one form and all even-numbered items on another.

The schools were divided into three geographical areas, and four schools were drawn from each area by random selection with replacement. The school principal was visited and the purpose of the study and the procedure explained. The questionnaires were left with the principal and most stated that time would be taken at a faculty meeting to complete the instrument. Of the 12 schools contacted initially, ten participated.

Statistical Analysis. The response to each item was assigned a numerical value (Not = 1, Slightly = 2, Moderately = 3, Very = 4, Extremely = 5). Means were obtained on each item for the professors (Group 1) and for regular classroom teachers having experience with a handicapped individual (Group 2). A statistical analysis of the difference in perceived importance of each stated competency was conducted by a comparison of Group 1 and Group 2 means.

Means were also obtained for each of the 11 competency areas for Group 1 and Group 2.

Results

Table I presents the means, standard deviations and two-tailed probabilities for professors and regular classroom teachers. The statistics are reported for each stated competency on the questionnaire. The actual range of means for faculty was from 2.83 (slightly important) to 4.43 (very important) and for classroom teachers 3.24 (moderately important) to 4.62 (very important). For the most part across the instrument, the regular classroom teachers rated each item higher than the University faculty.

Table I

Means, Standard Deviations and 2-Tailed Probability for Professors and Regular Classroom Teachers for Each Stated Competency

		Faculty		*Teachers*		*2-tailed*
Item	*Competency Statement*	*Mean*	*S.D.*	*Mean*	*S.D.*	*Prob.*
1.	Understand the background, philosophy, research and impact of mainstreaming	3.91	.829	4.10	.929	.408
2.	Understand the laws and guidelines regarding the handicapped, including terminology (e.g. least restrictive environment, IEP) and procedural safeguards (e.g. due process, parental participation, periodic review).	3.81	.776	4.22	.808	.029*
3.	Understand the least restrictive environment placements (levels of service), procedures for placement and the teacher's role in the placement process.	4.02	.645	4.20	.819	.336
4.	Help parents understand their rights under the new laws and the range of appropriate services to which their children are entitled.	3.70	1.077	4.08	1.010	.124
5.	Be familiar with the duties and responsibilities of various human resource and support systems and be able to utilize them (e.g. special educators, psychologists, counselors and organizations providing services to handicapped.	3.94	.970	4.48	.738	.013*
6.	Use non-human resources and support sys-	3.45	.730	3.74	1.120	.211
7.	Use audivisual and other equipment designed for use with handicapped.	3.70	.968	4.20	.726	.018*
8.	Use professional resources (e.g. journals and publications) to gain current information about curriculum materials, instructional techniques and methods which have proven to be effective in mainstream environments.	3.75	.895	3.91	.887	.456
9.	Be aware of workshops and conferences designed to provide information on various aspects of mainstreaming.	3.72	.932	4.06	.998	.164

*prob. $<$ .05

Table I, *continued*

Means, Standard Deviations and 2-Tailed Probability for Professors and Regular Classroom Teachers for Each Stated Competency

		Faculty		*Teachers*		*2-tailed*
Item	*Competency Statement*	*Mean*	*S.D.*	*Mean*	*S.D.*	*Prob.*
10.	Understand normal and abnormal growth and development patterns.	3.97	.897	4.31	.758	.085
11.	Understand the causes of various impairments and the extent to which an impairment limits a handicapped student within the regular classroom.	4.13	.822	4.51	.634	.037*
12.	Understand the factors associated with the handicapping condition (e.g. short attention span, immaturity, emotions, acting out, etc.).	4.43	.647	4.57	.608	.351
13.	Understand the challenges handicapped individuals have to meet (attitudes in society, physical environmnents).	4.24	.723	4.48	.688	.175
14.	Identify, locate and refer handicapped children for special services.	3.72	.990	4.28	1.073	.026*
15.	Identify the preferred media of a handicapped child.	3.70	1.051	4.34	.769	
16.	Understand the effects of expectations, labeling or classifying persons by handicap on their responses, learning and relationships.	3.94	.998	4.20	.861	.206
17.	Develop a program to prepare the special student for entry into a regular class.	3.51	1.146	4.20	.861	.007†
18.	Prepare members of the regular class for the entry of special students.	4.18	.877	4.17	.822	.930
19.	Measure attitudes toward the handicapped using both formal and informal techniques.	2.97	1.118	3.55	1.121	.041*
20.	Plan with the class for systematic appraisal and improvement of the psychological climate of the class (e.g. to be mutually helpful and supportive to one another.	3.91	1.090	4.28	.750	.100
21.	Overcome feelings of inadequacy, fear of failure and frustration in the handicapped child.	4.32	.784	4.62	.677	.105
22.	Understand one's own feelings regarding the handicapped and skills necessary to modify these attitudes, if necessary.	4.37	.794	4.28	.710	.603
23.	Understand federal, state and local barrier-free legislation.	2.83	1.014	3.58	.946	.003†
24.	Make physical changes in a room so that all students have free mobility (e.g. shelf heights, aisle widths).	3.86	1.182	4.14	.944	.273
25.	Select and utilize adaptive equipment and devices.	3.81	1.050	4.34	.670	.015†
26.	Organize learning centers that allow students to choose instructional activities, materials and technology that best suit their learning styles.	4.08	.983	3.94	1.056	.568

*prob. $<$ .05 †prob. $<$ .01

Item	Competency Statement	Faculty Mean	Faculty S.D.	Teachers Mean	Teachers S.D.	2-tailed Prob.
27.	Be aware of special education training the student may have received prior to or concurrent with regular classroom placement.	3.70	1.024	4.44	.686	.001†
28.	Be aware of the teacher's role in the assessment process within their school's mainstreaming program.	4.08	.682	4.34	.684	.109
29.	Work as part of a multidisciplinary team sharing diagnostic data.	3.59	.985	4.31	.761	.001†
30.	Be aware of the laws requiring nondiscriminatory testing and parent permission for individual evaluation.	3.18	1.101	4.28	.750	.000‡
31.	Be aware of the advantages and disadvantages of teacher's assessments compared to those conducted by trained clinicians.	3.45	.900	4.17	.805	.001†
32.	Identify standardized tests designed primarily for handicapped students.	3.16	1.014	3.60	1.288	.115
33.	Modify assessment devices and procedures as necessary to meet the unique needs of individual handicapped children.	3.45	1.120	4.24	.739	.001†
34.	Select, sequence, administer, score and interpret appropriate standardized tests and measures for each instructional area, such as reading, mathematics, language, perception, motor functioning and achievement.	3.08	1.278	3.68	1.022	.030*
35.	Develop and utilize information from informal assessment procedures, including observing and recording behavior.	4.10	.843	4.00	.845	.607
36.	Use diagnostic data to generate profiles of handicapped children's strengths and weaknesses.	3.59	1.040	3.95	.873	.128
37.	Effectively interpret and relate test information to instructional goals.	3.94	.970	4.24	.830	.188
38.	Identify children for whom additional assessment is required and be able to carry out the referral.	3,86	1.004	4.20	.719	.107
39.	Identify assessment techniques that are used to determine learning styles.	3.54	1.120	4.03	.778	.039*
40.	Be aware of curriculum materials relevant to the appropriate developmental age of children and be able to develop a rationale for accepting or rejecting such materials for use with handicapped children.	3.97	.957	4.11	.832	.505
41.	Develop special curriculum materials that enable the handicapped student to participate as an active member in the classroom.	4.05	.911	4.10	.817	.818
42.	Be aware of the school curriculum (K–12) in all content areas as well as in development (e.g. motor, language, perception, etc.).	3.05	1.311	3.85	1.004	.005*

*prob. $<$.05 †prob. $<$.01 ‡prob. $<$.001

Table I, *continued*

Means, Standard Deviations and 2-Tailed Probability for Professors and Regular Classroom Teachers for Each Stated Competency

Item	*Competency Statement*	*Faculty Mean*	*S.D.*	*Teachers Mean*	*S.D.*	*2-tailed Prob.*
43.	Provide functional and life-related skills.	4.02	.957	4.06	.884	.854
44.	Determine group goals for the class as a whole and for subsets within the class that will include the handicapped child.	4.05	1.129	4.17	.785	.609
45.	Consult with other relevant parties (e.g. parents, counselors, special educators, psychologists) prior to setting goals for a handicapped child.	4.21	.917	4.37	.728	.423
46.	Develop, write and use Individualized Educational Programs (IEPs) including terminal and enabling objectives.	3.70	1.127	3.34	1.110	.177
47.	Analyze one's own individual communication techniques and styles.	3.89	1.100	4.10	.900	.394
48.	Modify communication techniques according to the types of handicapped students.	4.18	.845	3.97	.954	.310
49.	Communicate to the administrators the need for classroom equipment, supplies, materials and other support systems.	3.70	1.024	4.62	.622	.000‡
50.	Communicate with the parents and help them participate actively in programming for their child.	3.94	.880	4.30	.802	.049*
51.	Seek from and share information regarding handicapped children with other professionals within and beyond the education setting, as appropriate.	3.45	.869	4.13	.953	.004†
52.	Develop a flexible time schedule that allows for the intellectual, physical and social needs of the handicapped child.	3.86	.887	4.20	.797	.096
53.	Use multiple approaches for instruction of the handicapped child.	4.43	.765	4.30	.712	.506
54.	Develop and use multi-sensory learning tasks.	4.27	.838	4.08	.853	.358
55.	Carry out a suitable individualized program to help remediate deficiencies.	4.13	.822	4.34	.814	.305
56.	Provide ample instruction and practice for each child to develop and refine adequate coping strategies.	4.10	.843	4.08	.853	.911
57.	Utilize group processes (e.g. a heterogeneous group working together) to achieve social and academic goals.	4.00	1.000	4.31	.761	.157
58.	Plan and maintain a system utilizing volunteers (cross age and cross cultural peers, parents and others) to reinforce and supplement classroom activities	3.59	.956	3.74	1.010	.525

*prob. < .05 †prob. < .01 ‡prob. < .001

Item	Competency Statement	Faculty Mean	Faculty S.D.	Teachers Mean	Teachers S.D.	2-tailed Prob.
59.	Understand compensatory behaviors on the part of handicapped children, including circumvention strategies and where and when they should be utilized.	3.70	.878	4.20	.620	.008†
60.	Use adaptive equipment and devices.	3.83	.986	3.80	.994	.872
61.	Conduct class activities in a way to encourage interaction between and among all students.	4.35	.753	4.51	.634	.335
62.	Ensure that the handicapped student is not identified as a token or as one who should receive special help but rather as an active member of the classroom, capable of assuming leadership and responsibilities.	4.35	.857	4.45	.741	.577
63.	Compare and contrast a variety of behavior management techniques and develop skills to manage individual and group activities.	3.89	.936	4.10	.805	.196
64.	Apply behavior modification techniques in the classroom (e.g. acknowledge appropriate behaviors in order to stimulate continued effort, identify and apply potential reinforcers applicable for classroom usage and decrease inappropriate behavior.	3.40	1.404	4.34	.838	.001†
65.	Understand the difference between criterion-referenced and norm-referenced evaluation and be able to develop both types.	3.18	1.309	3.58	.946	.158
66.	Identify and modify evaluation instruments for handicapped students.	3.29	1.102	3.85	.974	.025*
67.	Determine the type of evaluation that is necessary to measure whether students have met the performance objectives stated in their IEPs and be able to set new goals.	3.91	1.010	3.68	.930	.342
68.	Develop and utilize a record-keeping system for evaluating ongoing objectives.	3.67	.925	3.68	1.105	.769
69.	Collect behavioral data.	3.67	1.029	3.24	1.185	.123
70.	Understand and interpret the scores obtained by students on any evaluation measure used.	3.64	1.130	3.91	1.011	.298
71.	Develop a feedback system that will furnish continuous data to student, teachers and parents on goal attainment.	3.91	.983	4.10	.900	.430
72.	Participate in school-wide planning for mainstreaming (e.g. providing services and space necessary to educate handicapped students).	3.54	.931	4.05	.906	.020*
73.	Participate in parent and community orientation programs for mainstreaming.	3.43	.929	3.82	1.197	.149
74.	Function as a member of team for purposes of evaluation, placement and instruction of handicapped children.	3.67	.818	3.97	1.043	.187
75.	Relay the issues, problems and needs of mainstream education to public audiences through oral as well as written communication.	2.86	1.058	3.79	1.290	.003*

*prob. < .05 †prob. < .01

There were significant differences between responses of the two groups on approximately one third (26 out of 75) of the items. In all cases where there was a significant difference, the regular classroom teachers rated the item as more important.

The regular classroom teachers were more concerned with the legal aspects of mainstreaming. They wanted to understand P.L. 94–142 rules, regulations, and guidelines, terminology and procedures as well as barrier-free legislation, non-discriminatory testing and parental permission for individual evaluation.

They were concerned with communicating the need for equipment, supplies, materials and the support systems, and they wanted to be familiar with human resource systems. They also thought it was important to have the skills to identify, locate and refer handicapped children.

They felt it important to have knowledge about the entire school curriculum (K–12) in all content and development areas.

The teachers appeared to place significantly more importance on a little over half of the assessment items, in particular those concerned with identifying, selecting and modifying assessment instruments, including knowledge of advantages and disadvantages of various instruments.

The teachers felt that it was important to be aware of the special education services a child has been or is receiving, and then preparing that child for entry into a regular class.

The teachers thought it was more important to understand the causes and limitations of various impairments, compensatory behaviors and interventions.

They also thought it was more important to identify various learning styles as well as the preferred media of the child, as well as to be able to select and use adaptive equipment and devices.

Another item of significant difference was concerned with the application of behavior modification techniques in the classroom.

Teachers appeared to place significantly more importance on other interpersonal skills such as participating in team diagnosis, seeking and sharing information with others, including parents of handicapped children, participating in planning for mainstreaming and relaying the issues, concerns and problems of mainstreaming.

Table II presents the rank order and means for the professors and regular classroom teachers on the 11 areas of competency. Differences in rank ordering were nonexistent or slight for most of the items. There was complete agreement that understanding the nature of handicapped pupils was highly important. There was also agreement that instruction and

management were important, as were attitudes. Both groups agreed that understanding of the nature of mainstreaming was of moderate importance as was knowledge of resource and support systems. Less important for both groups were competencies in structuring an appropriate learning environment, evaluating students, and planning and administration.

Table II
Rank Order and Means for Professors' and Regular Classroom Teachers' Perception of Importance of Competencies

Area of Competency	*Faculty Rank*	*Teachers Rank*	*Faculty Mean*	*Teachers Mean*
Nature of Handicapped Pupils	1	1	4.036	4.419
Instruction and Management	2	3	3.996	4,198
Attitudes	3	4	3.892	4.193
Goal Setting and Curriculum Selection	4	8	3.869	4,005
Nature of Mainstreaming	5	5	3.865	4.156
Communication	6	2	3.838	4.235
Resource and Support Systems	7	7	3.719	4.083
Learning Environment	8	9	3.649	4.004
Evaluating Students	9	11	3.629	3.725
Assessing Student Needs	10	6	3.599	4.116
Planning and Administration	11	10	3.378	3.912

There were three items, however, on which there was a four-point difference in rank. The University faculty viewed goal setting and curriculum selection as more important while the regular teachers ranked communication and assessing students' needs as more important.

Results of the reliability study using the faculty responses only to determine internal consistency yielded an alpha coefficient of .968.

Discussion

When items were grouped according to areas, there was fairly close agreement in the order of importance. This fact should be reassuring to professors as well as the regular classroom teacher, for, by and large, what is being taught is what is needed to be learned.

Both professors and regular classroom teachers agree that the single most important area of competency needed to effectively mainstream a handicapped child is the understanding of that child's world. In particular, both groups indicated the importance of understanding factors associated with the various handicapping conditions. It would be important for a teacher to know, for example, that the child may fatigue more

quickly or have a short attention span. Consider the comment of one teacher, "There were many characteristics of the handicapped children I did not know about when I began to work with them . . . their tendency to nod yes when asked if they heard, or understood, even if they didn't, etc. I put this understanding as a top priority." There was a realization that certain impairments may result in fluctuating levels of motivation, acting out, or other emotional conditions. An understanding of the challenges handicapped people have to meet, mentally, physically and socially was also indicated as important.

Both groups also stressed the importance of knowledge and skills in instruction and management and in understanding attitudes.

Perhaps the most startling contrast is found in the communication area. This area was the number two concern of the regular classroom teachers while it ranked sixth for the professors. Teachers rated three of the five items in that area as significantly more important. Among them were communicating to administrators the need for classroom equipment, supplies, materials and other support systems, communicating with parents and helping them participate actively in programming for their child and seeking and sharing information with other professionals. Perhaps the differences found on this item reflect the teachers' cry for help. Some of the comments made by teacher subjects were, "Extra time and resources must be given the classroom teacher." "A handicapped child often creates a tremendous work load if special education doesn't provide some assistance." "Please realize that at this time the classroom teacher is *not* receiving enough assistance to effectively help a handicapped child. We *cannot* do this by ourselves!" It seems critically important then for teachers to have skills to communicate these and other needs.

Another area of discrepancy was assessing students' needs, which teachers ranked sixth and faculty tenth. Perhaps the teachers rated this item higher because these skills would help them to better define their role and understand the handicapped child. This last seems to be a pervasive concern expressed in their responses to the questionnaire.

Interpretations and use of the results of this study should be made with cognizance of the limited sample size and, therefore, generalizability. In addition, although a concerted effort was made to ensure validity by selecting items from research, writing and conversations with other experts in mainstreaming, there is always the possibility that personal bias will surface so cautions are intended in terms of validity. The use of jargon is always discouraged and a sincere effort was made to express

items in an understandable manner. However, comments made by a small number of subjects indicated problems with understanding terms such as "IEP" and "least restrictive environment." These comments are supported by the high rating given to the item concerned with understanding the terminology of P.L. 94–142.

With these limitations in mind, it seems reasonable to conclude that teachers and faculty alike feel that many competencies are important for mainstreaming. Teachers who are on the firing line, so to speak, are even more aware of their importance. There is more agreement than disagreement in the ranks between the two groups, both thinking that understanding the nature of the handicapped child is of prime importance. How much more educating do we need to do before the teachers feel they are fully competent to deal with mainstreaming? The answer to this most important question lies in the results of future investigations. But the fact that faculty and regular classroom teachers are in basic agreement in most areas is certainly an encouraging sign.

References

Anderson, A. S. *Public Law 94–142 and suggested areas of competencies for regular educators,* University of Maryland, 1979.

Goldman, S. and Masla, J., *Mainstreaming preparation for regular education personnel,* Ohio University, 1976.

Haisley, F. G. and Gilberts, R. O. Individualized competencies needed to implement P.L. 94–142. *Journal of Teacher Education,* 1978, *29,* 30–33.

Mann, P. H. Mann Self-Assessment Competency Inventory, 1977.

Rader, B. T. Competencies for mainstream teachers: an analysis. *Teacher education: Renegotiating roles for mainstreaming,* Grasnich, J. K. and Reynolds, M. C. (Eds.), Minnesota, 1978, 293–304.

Redden, M. R. and Blackhurst, A. E. Mainstreaming competency specifications for elementary teachers. *Exceptional Children,* 1978, *44,* 614–617.

Madonna Goodspeed *is a doctoral student in School Psychology and a school psychologist for Prince George's County Public Schools. Her responsibilities include the placement of handicapped students.*
Her research and professional interest center around improving teacher competencies, especially in relation to 94–142.

Beverly Celotta *is an Assistant Professor in the Counseling and Personnel Services department. Her research centers around applying systems theory and technology to counseling problems.*
She is focusing her present efforts on the construction needs and use of assessment instruments.

Faculty Needs and Attitudes Toward P.L. 94–142 in the First and Third Years of a Dean's Grant

David J. Rhoads *Edward J. Roke* *Andrew G. Malizio*
National Professional Leadership Development Program

OVER THE PAST FIVE YEARS, the Bureau of Education for the Handicapped (BEH, now the Office of Special Education) has funded 205 "Deans' Grants Projects" at colleges and universities across the country for the purpose of facilitating changes in teacher preparation. The more specific intention of the grants, in accordance with P.L. 94–142, is to expand the knowledge base of teacher educators and to facilitate curriculum and program revision. The ultimate goal of Deans' Grants Projects, of course, is to prepare graduates of teacher education programs and others more effectively for their new teaching/learning roles with the mildly handicapped.

In 1978, BEH awarded the College of Education at the University of Maryland, College Park, a Dean's Grant. Under the direction of Dr. Dean C. Corrigan, Dean of the College, the Mainstreaming Project sought: (1) to raise the level of awareness of the entire college faculty relative to the requirements of Public Law 94–142 and its implications for educators; (2) to analyze and revise existing degree programs in order to better prepare general educators for their roles with handicapped students in regular class settings; and, (3) to identify, review, evaluate and acquire those resources which are necessary to support faculty development and program revision.

In the first and third years of the Dean's Grant Project, surveys were conducted to estimate faculty needs with regard to information about mainstreaming and, also, to examine faculty attitudes toward P.L. 94–142 and related issues. A comparison of the results of these two surveys is provided in this paper. The limitations of this design (the one-group pretest-posttest) are well known (e.g., Campbell and Stanley, 1963) and rival hypotheses accounting for changes are examined later in this paper.

In November 1978, near the beginning of the Project, faculty informational needs and attitudes were assessed as part of a college-wide assessment. The needs assessment survey forms were distributed in each

department in the College by a faculty member who served on one of the Project's committees. Of the 190 surveys distributed, 124 or 65 percent were returned. In the third year, needs assessment instruments (identical to the first year's) were placed in the mailboxes of the 190 full-time faculty in the College in November 1980. Eighty-eight instruments were completed which represents a return rate of approximately 46 percent.

One section of the survey asked respondents to indicate by checking "yes" or "no" as to whether they wished more information in 19 different areas related to mainstreaming. A comparison of years one and three is presented in Table 1. In almost every category, there was a decrease from the first to the third year in the percentage of respondents who indicated a desire for more information. Demand for information remained fairly constant from years one and three with regard to court decisions concerning education of the handicapped (49.2 percent and 50 percent for years one and three, respectively) and the establishment of a collection of various media on mainstreaming education for faculty use (67.7 percent and 64.8 percent, respectively).

The attitude section of the needs assessment instrument consisted of ten statements with Likert-type scaling, where respondents indicated their agreement/disagreement with each statement. Table 2 indicates the distribution of percentages for each statement for 1978 and 1980. For each attitude statement a chi-square goodness-of-fit test was applied (Siegel, 1956). The observed frequencies for each statement from the 1980 needs assessment were compared to expected frequencies based on the distribution for each statement from the 1978 needs assessment. The question for each statement, thus, was 'how well does the distribution of agreement/disagreement scores in 1980 compare with the agreement/disagreement distribution of scores in 1978?''Table 3 indicates each attitude item, the 1980 frequency of agreement/disagreement, and in parentheses the expected frequencies based on the 1978 needs assessment. Results for all statistical tests are reported based on an experiment-wise Type I error rate of .05.

Eighty percent of the faculty surveyed agreed with the statement that "the *educational needs* of most mildly handicapped students can best be met through integration in the regular classroom" (Item 1). The chi-square value was not significant (see Table 3).

For item 2, "the *socio-emotional* needs of most mildly handicapped students can best be met through integration in the regular classroom setting," over 80 pecent of the responses were either *agree* or *strongly agree.* Again, there was no significant change over the three years.

Table 1
Areas in Which Additional Information is Desired

	1978		1980	
	% "Yes"	(N)	% "Yes"	(N)
P.L. 94-142	48.4	(60)	19.3	(68)
P.L. 93-380	40.3	(60)	23.9	(68)
Maryland State By-Laws	44.4	(55)	36.4	(68)
Characteristics of Mainstreamed Handicapped Students	60.5	(75)	38.6	(71)
Teaching Techniques for Mainstreamed Students	64.5	(80)	52.3	(74)
Evolving Court Decisions Concerning Education of Handicapped	49.2	(61)	50.0	(74)
Developing IEPs	67.7	(84)	36.4	(72)
Procedural Safeguards	51.6	(64)	43.2	(73)
Existing Curricula within the College which Make Provision for Mainstreamed Students	62.9	(78)	45.5	(73)
Moral and Social Implications	54.8	(68)	42.0	(71)
On-Site Observations	54.8	(68)	34.1	(68)
Interdisciplinary Discussions	70.2	(87)	45.5	(71)
Dean's Project Newsletter	64.5	(80)	53.4	(66)
Discussions With:				
public school teachers	54.8	(68)	46.6	(70)
parents of handicapped students	45.2	(56)	31.8	(62)
handicapped students	52.4	(65)	42.0	(65)
personnel from other universities which have had similar Dean's Grants	50.8	(63)	28.4	(59)
Attending Local and Regional Conferences and Workshops Related to the Education of Special Needs Students	58.9	(73)	33.0	(68)
Establishment of a Collection of Various Media on Mainstream Education for Faculty Use	67.7	(84)	64.8	(74)

Table 2

Faculty Attitudes: Percentages for 1978 and 1980

SA = strongly agree; A = agree; U = undecided; D = disagree; SD = strongly disagree

		SA	A	U	D	SD	Valid Cases
1. The *educational needs* of most mildly handicapped students can best be met through integration in the regular classroom.	1978	28.8	52.5	12.7	4.2	1.7	118
	1980	31.8	48.2	17.6	1.2	1.2	85
2.The *socio-emotional needs* of most mildly handicapped students can best be met through integration in the regular classroom.	1978	26.3	52.5	14.4	5.1	1.5	118
	1980	32.2	48.3	11.5	8.0	—	87
3. Meeting special learners' needs, at all levels of education, should remain in the domain of special education.	1978	.8	11.9	10.2	52.5	24.6	118
	1980	—	10.5	17.4	50.0	22.1	86
4. Graduates of our current teacher education programs are likely to be successful working with mainstreamed, mildly handicapped students.	1978	1.7	12.7	28.8	42.4	14.4	118
	1980	1.2	30.2	34.9	23.3	10.5	86
5. The presence of a mildly handicapped student in a regular classroom has a negative effect on a teacher's ability to meet the *socio-emotional needs* of the other non-handicapped students.	1978	.8	6.8	13.6	50.0	28.8	118
	1980	—	6.9	14.9	57.7	20.7	87
6. The presence of a mildly handicapped student in a regular classroom has a negative effect on a teacher's ability to meet the *educational needs* of the other non-handicapped students.	1978	.8	9.3	17.8	51.7	20.3	118
	1980	—	13.8	14.9	56.3	14.9	87
7. Mainstream education places unrealistic demands on general educators in today's schools.	1978	5.9	30.5	25.4	27.1	11.0	118
	1980	10.3	28.7	21.8	36.8	2.3	87
8. Existing teacher education programs should be altered to accommodate the newly mandated regulations (P.L. 94-142).	1978	40.7	44.9	10.2	4.2	0	118
	1980	27.9	57.0	9.3	5.8	—	86
9. Realistically, teachers are going to need more training to deal with mainstreaming children with special needs than can be provided in afternoon workshops.	1978	39.8	50.0	8.5	1.7	0	118
	1980	36.8	43.7	13.8	5.7	—	87
10. If teachers are going to be successful with special needs children, they should be expected to work with fewer children.	1978	39.0	42.4	11.9	6.8	0	118
	1980	36.8	42.5	12.6	8.0	—	87

The statement, "meeting special learners' needs, at all levels of education, should remain in the domain of special education" (Item 3), was disagreed with by 72.1 percent of the faculty. No significant changes were evident over the three years of the grant.

A significant shift in faculty attitudes occurred in relation to the statement, "Graduates of our current teacher education programs are likely to be successful working with mainstreamed, mildly handicapped students" (Item 4). Whereas only 14.4 percent agreed with this statement in 1978, 31.4 agreed in 1980. As Table 2 indicates, the chi-square value was statistically significant.

Approximately 78 percent of the faculty disagreed with the statement that "the presence of a mildly handicapped student in a regular classroom has a negative effect on a teacher's ability to meet the *socio-emotional* needs of the other non-handicapped students." There were no changes from year one to year three on this item. Similarly, faculty disagreed (approximately 71 percent) that "the presence of a mildly handicapped student in a regular classroom has a negative effect on a teacher's ability to meet the *educational needs* of the other non-handicapped students" (Item 6) and no changes were evident in this attitude over the three years.

Thirty-nine percent of the faculty agreed that "mainstream education places unrealistic demands on general educators in today's schools." As Table 2 indicates, a significant change occurred on this attitude dimension over the three years—the chi-square value was significant. The interpretation of this difference is not clear; generally, there was more disagreement than expected, but also more "strongly agree's". The largest contributions to the chi-square value came from the discrepancies between obtained and expected values in the categories "Disagree," "Strongly Disagree," and "Strongly Agree."

Almost 85 percent of the faculty surveyed agreed with the statement that "Existing teacher education programs should be altered to accommodate the newly mandated regulations (P.L. 94–142)" and no changes in the distribution of responses occurred from year one to year three. Changes were evident, however, for Item 9: "Realistically, teachers are going to need more training to deal with mainstreaming children with special needs than can be provided in afternoon workshops." Although over 80 percent of the faculty agreed with this statement in 1980, there was a significant shift from year one to year three—more faculty responded "undecided" or "disagree" than would be expected.

Finally, almost 80 percent of the faculty agreed with the statement that "if teachers are going to be successful with special needs children, they

Table 3

Faculty Attitudes

1980 Observed Frequencies, 1978 Expected Frequencies (in parentheses) and % total

SA = strongly agree; A = agree; U = undecided; D = disagree; SD = strongly disagree

		SA	A	U	D	SD	*N*	X^2
The *educational needs* of most mildly handicapped students can best be met through integration in the regular classroom.		27	41	15	1	1	85	
		(24.48)	(44.63)	(10.80)	(3.57)	(1.45)		4.1776
	%	31.8	48.2	17.6	1.2	1.2		
The *socio-emotional needs* of most mildly handicapped students can be best met through integration in the regular classroom setting.		28	42	10	7	0	87	
		(22.881)	(45.675)	(12.528)	(4.437)	(1.305)		4.7363
	%	32.2	48.3	11.5	8	—		
Meeting special learners' needs, at all levels of education, should remain in the domain of special education.		0	9	15	43	19	86	
		(.688)	(10.234)	(8.772)	(45.15)	(21.156)		5.5807
	%	—	10.5	17.4	50.0	22.1		
Graduates of our current teacher education programs are likely to be successful working with mainstreamed, mildly handicapped students.		1	26	30	20	9	86	
		(1.462)	(10.992)	(24.768)	(36.464)	(12.384)		30.425*
	%	1.2	30.2	34.9	23.3	10.5		
The presence of a mildly handicapped student in a regular classroom has a negative effect on a teacher's ability to meet the *socio-emotional* needs of the other non-handicapped students.		0	6	13	50	18	87	
		(.696)	(5.916)	(11.832)	(43.5)	(25.056)		3.7708
	%	—	6.9	14.9	57.7	20.7		

The presence of a mildly handicapped student in a regular classroom has a negative effect on a teacher's ability to meet the *educational* needs of the other non-handicapped students.		0	12	13	49	13	87	
		(.696)	(8.091)	(15.486)	(44.979)	(17.661)		4.5733
	%	—	13.8	14.9	56.3	14.9		
Mainstream education places unrealistic demands on general educators in today's schools.		9	25	19	32	2	87	
		(5.133)	(26.535)	(22.098)	(23.577)	(9.57)		12.4335*
	%	10.3	28.7	21.8	36.8	2.3		
Existing teacher education programs should be altered to accommodate the newly mandated regulations (P.L. 94–142)		24	49	8	5	0	86	
		(35.002)	(38.614)	(8.772)	(3.612)	(0)		6.853
	%	27.9	57.0	9.3	5.8	—		
Realistically, teachers are going to need more training to deal with mainstreaming children with special needs than can be provided in afternoon workshops.		32	38	12	5	0	87	
		(34.626)	(43.5)	(7.395)	(1.479)	(0)		12.1445*
	%	36.8	43.7	13.8	5.7	—		
If teachers are going to be successful with special needs children, they should be expected to work with fewer children.		32	37	11	7	0	87	
		(33.93)	(36.888)	(10.353)	(5.916)	(0)		.3491
	%	36.8	42.5	12.6	8.0	—		

Note: $*p < .05$ $df = k-1/k$ = number of categories

should be expected to work with fewer children," with no changes in this percentage from year one to year three.

Summary and Conclusions

Comparisons of certain attitudes expressed by the faculty during the first and third year of the Deans' Grant Project support several tentative conclusions. First of all, there has been a general decrease in the informational needs of the faculty from the first to the third year. Although providing information to the faculty was one of the goals of the Mainstreaming Project, it cannot be concluded with certainty that the changes were due necessarily to the existence of the Project. To be sure, information about the handicapped, children with special needs, mainstreaming, etc. has appeared in educational publications generally as well as the popular press. The role of the Mainstreaming Project cannot be discounted, but its contribution cannot be determined from the data.

To what extent can the attitudinal changes evidenced in the needs assessment be attributed to the existence of the Mainstreaming Project? Likely, extraneous variables may confound the validity of a causal hypothesis: (1) history (e.g., events occurred between 1978 and 1980 unrelated to the Project's efforts to provoke attitudinal changes); (2) maturation (e.g., faculty growth and development apart from activities provided by the Project were responsible for changes);, or (3) selection (e.g., the faculty in the 1978 assessment were not represented in the 1980 needs assessment). These limitations notwithstanding, it is very difficult to assess the impact of Deans' Grants on education faculty and teacher training programs. Little is known about the extent to which changes in colleges and schools of education impact on the teacher working with mildly handicapped students in the classroom.

Even though causes for change cannot be identified by the current data, it appears that faculty report a lesser need for information related to P.L. 94–142. Moreover, expressed attitudes seem to reflect a different awareness about the task of providing sound education for the mildly handicapped.

References

Campbell, D.T. and J. Stanley. *Experimental and Quasi-Experimental Designs for Research.* Chicago: Rand McNally, 1963.

Seigel, S. *Nonparametric Statistics for the Behavioral Sciences.* New York: McGraw-Hill, Inc. 1956.

The National Professional Leadership Development Program (NPLDP) operates out of the College of Education at the University of Maryland and is funded through a grant from the Office of Special Education (formerly BEH). The purpose of the Program is to provide training and experience to pre- and post-doctoral fellows in program evaluation and management and policy development, analysis and implementation with regard to the Education for All Handicapped Children Act (P.L. 94–142). Currently, eleven Research Associates have assignments in Colleges and Schools of Education at Universities around the country.

Dr. David Rhoads, an Associate Professor in the Counseling and Personnel Services Department in the College of Education, serves as the Project Coordinator.

Dr. Edward Roke is a Research Associate in the Program; prior to joining NPLDP he was a Visisting Assistant Professor at the Institute for Child Study, University of Maryland.

Andrew Malizio is currently a Graduate Research Assistant in the Program and a doctoral candidate in the department of Measurement, Statistics and Evaluation in the College of Education.

Personnel Preparation Priorities In Career and Vocational Education for Handicapped Students

Juliana Taymans

and

George Hagerty

FEDERAL LEGISLATION on behalf of handicapped children and youth provides both formula and discretionary funds, which, in concert with state and local resources, may be used for inservice training initiatives. One priority area of inservice training for both special education and regular education personnel is career and vocational programming for handicapped students. This paper discusses major considerations in designing such inservice programs and discusses several federally funded projects in this area.

Present Needs

Of the more than 220 million citizens of the United States, 30 million are disabled. Within this significant population of disabled individuals, over 11 million are potentially employable. Yet of that number, only 37% (4.1 million people) are employed—many of whom are underemployed. These disconcerting statistics illustrate the need for comprehensive and individually responsive vocational/career training for handicapped students. Since the transition from the school setting to the work arena can be a particularly confounding experience for any person, and especially the handicapped individual, every student should be exposed, to the maximum extent appropriate, to a comprehensive program of vocational/career preparation.

An examination of present practices relating to career education, special education, and vocational education reveals certain widespread deficiencies in longitudinal career education, in opportunities for prevocational training, and in service delivery options in vocational training for handicapped students. These deficiencies cannot be addressed by special education alone. Cooperative efforts among all persons who im-

pact on handicapped students' lives are vitally important to the career development of such students. Inservice training in career and vocational education for handicapped students provides an opportunity to foster communication and collaboration among groups who do not usually work together.

Developing training experiences for such key school personnel as special educators, vocational education/industrial arts educators, counselors, and administrators is a demanding task. The planning of such training necessitates active input from vocational education, special education, rehabilitation, parent groups and the employment sector. It is often a challenge to establish a mutually fullfilling working relationship between any two of these groups. Yet, programs that are the most worthwhile and effective are those of a truly interdisciplinary nature. Likewise, quality training for handicapped students is based on cooperative efforts. No one group possesses all the expertise; rather each group holds one essential piece of the puzzle that provides for a satisfying adult life for handicapped individuals.

The Division of Personnel Preparation of the U.S. Office of Special Education has designated vocational/career education as a priority funding area and there are presently 72 projects funded under the vocational/career category. Six of these projects have been funded as exemplary inservice training models. The implementation of these projects has been based on linkages between university departments, between universities and state and local education agencies, between school and community, and between policy makers and advocacy groups. These projects represent a solid first step toward comprehensive inservice training models for educators and other key individuals who maintain an impact upon educational programming and policy in this area.

Overview of Exemplary Inservice Training Projects

VOC-MITS Programming

In 1978, the Division of Personnel Preparation established an initiative which was designed to respond to then-Commissioner Boyer's *Position Statement on Comprehensive Vocational Education for Handicapped Persons.* The VOC-MITS (Vocational Education-Major Initiative Tracking System) was conceptualized to insure the development, implementation, dissemination and ultimate replication of several cost effective state and local inservice training models. Each project submission was to reflect the following qualities:

Need: A clear definition of the scope of the training needs was to be established based upon narrative and statistical data elicited from state and local sources. Data was to be collected from the State Education Agencies (SEA), Local Education Agencies (LEA), the employment sector, handicapped consumers and their advocates, as well as from rehabilitation and human service agencies.

Planning: To insure that each VOC-MITS submission was responsive to the particular needs of each segment or discipline in the training population, applications were to be developed utilizing the collective expertise of the resource populations cited in the *Need* criteria. Aside from its responsiveness to the State *Comprehensive System of Personnel Development* (CSPD), each proposal was to evidence continous local (i.e., LEA and community agency) input during the conceptualization and development of the project application.

Impact: Each project was to initiate a sequence of inservice activities which would meet the comprehensive awareness, knowledge and skill needs of all personnel involved in providing career and vocational services to handicapped students. The intent of programming was to emphasize the preparation of noneducators and support personnel, as well as of those educators traditionally included in State and local level inservice activities (i.e., vocational and special educators). The ultimate criterion for the selection of these projects was the ability of the applicant to convey a strong potential for the future replication of collaborative, field-based training activities.

Project Descriptions

Presently, the VOC-MITS projects take on the following configurations.

Ohio State University Research Foundation is developing teams of school and community personnel to assist students in the transition from school to work.

University of Vermont is offering statewide workshops, courses, and consultation to special, regular, and vocational educators, human service providers, employment and training personnel, and consumers to ensure that handicapped individuals receive training for employment and that they are employed once they leave the educational system.

The American Coalition of Citizens With Disabilities is developing an advisory council inservice training model to train the various types of advisory council members who can represent the interests and concerns of handicapped individuals on such councils.

The City University of New York is developing school-based interdisciplinary teams to enhance career and vocational programming for special education students. These teams are also responsible for training other personnel in their schools.

University of Kansas is training teams of vocational and special education personnel to design, develop, and deliver staff development programs to meet the specific needs of their school districts.

University of Tennessee trains special education teachers, counselors, and psychologists to better understand the demands of vocational education and the employment sector so they may more successfully guide handicapped students toward employment goals.

All of these projects are funded for periods ranging from two to three years.

Objectives

The ultimate objective of these inservice projects is to expand employment opportunities for handicapped individuals. The major training focus is on improving career and vocational services for adolescent handicapped students, with a secondary emphasis on the transition from school to work or from school to further training experiences. An examination of the six projects reveals this wide spectrum of service delivery roles and the environments for which trainees are prepared.

Service Roles

1. SEA and LEA Administrators/Supervisors
2. Paraprofessionals
3. Resource/consultant teachers
4. Special educators
5. Vocational educators
6. Regular educators
7. Rehabilitation personnel
8. Counselors/Guidance
9. Employers
10. Parents/Volunteers/Advocates
11. Other support personnel (i.e., Occupational therapists/Physical therapists, school psychologists, interpreters, etc.)

Settings

1. Regular Vocational Classroom (i.e., programs in Health Occupations, Agriculture, Home Economics, General Business, etc.)
2. Community College programs
3. On-the-job training
4. Sheltered workshops
5. Adapted vocational programs
6. Partnership with industry programs

The major training strategy utilized is the development of some type of communication network or interdisciplinary team. These teams and networks can be school-based, district-wide, or state-wide depending on the targeted level of change. Such networks and teams are often intended to create a ripple effect whereby the originally trained groups offer training to similar groups. This "Training of Trainers" strategy produces greater numbers of personnel with expertise in career and vocational education for the handicapped. A final common theme is the need for policy development among groups on all levels to effectively deal with the multiplicity of issues in this area.

Project objectives form a continuum of action. The starting point is interdisciplinary collaboration based on a handicapped individual's needs for vocational training. The continuum ends with the implementation of state policies expanding occupational opportunities for the handicapped within both educational and community settings. These goals reflect the many vital issues which must be addressed to successfully integrate handicapped individuals into the work force.

Strategies

Some universities are placing their major training efforts in on-campus courses. Other institutions of higher education are forming relationships with local school districts to deliver inservice training. Although the training context is very different in these two situations, the specific training strategies are very similar.

Trainee input is a key ingredient to the design and content of the inservice experiences; and trainers remain flexible as they respond to the needs of inservice participants. Projects focus on the formation of partnerships among representatives from various groups such as education, community and business. Strategies fall into the following four broad categories.

Problem-solving. The most prevalent strategy utilized is a problem-solving approach to training. Problems focus on an individual handicapped student, group, or system-wide need. Generally, such problems are explored by interdisciplinary groups of trainees whose individual perceptions and expertise blend with those of other group members. Specific training concerns adressed by the majority of projects included, but were not limited to:

- Referral, evaluation and placement procedures
- The IEP and individualized learning styles

- Career counseling and program planning
- Program/facility/instructional equipment and material adaptation
- Instructional methods and practices
- Development of LEA action plans (inter-institutional agreement)
- Community, employer, LEA, rehabilitation services collaboration
- Job placement and supervision
- Awareness and knowledge oriented training for administrators and other policy makers.

Working with a reality-based situation tends to promote involvement during training, but more importantly it encourages action after training has ended.

Team approach. The formation of interdisciplinary teams to address issues in career and vocational training for handicapped individuals appears to be an important training strategy. Providing the opportunity for professionals from divergent areas of expertise to interact and better understand each other is a first step to broadening services for handicapped students. Trained teams can be used in a multiplier effect, whereby the originally trained team offers training to other professionals. The team approach to problem-solving as a training strategy demands skillful leadership and facilitation skills from the personnel responsible for training. Yet, such a strategy is a realistic response to the many complex barriers to vocational opportunities for handicapped students.

Establishing Communication Networks. Establishing channels of communication is a strategy being used to increase the involvement of the variety of previously mentioned target groups. Projects are involving local education agencies, state education agencies, and advisory groups in planning training activities. Training improves as more and more resources are developed and more people become involved.

Training environments. The training environment has a powerful influence on program effectiveness. Regional workshops which remove people from their normal work environment can have the effect of making participants more open and accepting of training experiences. Visitation experiences, where participants are involved in unfamiliar work settings, can be very effective in broadening participants' perspectives. Off campus courses, where specific school districts' needs are addressed, allow for training continuity and follow-up. Inservice programs within a school can be successful in cultivating the active commitment of school personnel to produce needed changes. The context in which training takes place is an eminent consideration in successful inservice programs.

Impediments

The success of training in vocational and career education for handicapped students is contingent upon the recognition and skillful treatment of potential and existing impediments to implementation. The road to effective program implementation can be long and circuitous. An understanding of the needs, attitudes and motivations of targeted training audiences is just now emerging. Another inhibiting factor is the lack of established training materials and procedures in this area, causing trainers to develop content sequences and methodologies. Despite the many potential and existing barriers to program effectiveness, the experimentation with and refinement of training procedures is significantly contributing to the body of knowledge in this area.

Resistance. Resistance, the natural counterpart to any innovative endeavor, is denoted as a characteristic impediment to program implementation. University faculty report difficulty in obtaining a commitment to support training activities from school districts and/or state department personnel. Participant insecurity and negative attitudes toward special education or toward the integration of special education and vocational training are obstacles to be overcome before content training can begin. The training projects report eventual success in gaining access to targeted training populations.

Lack of clear motivators. Appropriate incentives for participation in inservice programs are not always apparent, especially when the training is dealing with different groups of individuals. Some funds have been available for small stipends or tuition reimbursement, yet these incentives are not always appropriate for administrative personnel and other non-school based participants. Although cooperation has been gleaned from all such groups, it is often not readily apparent how to motivate such diverse groups of participants.

Need for administrative support. Administrative support is seen as a key ingredient for success. School based projects are significantly influenced by principal attitude and action; projects spanning a school district or a state are vulnerable to local and state administrative action, while university projects are dependent on multi-departmental and university approval. Administrative approval and encouragement crucially influence both participant and training staff attitudes; yet, it is a factor which is very difficult to control. Projects report that time spent in clarifying objectives and discussing anticipated outcomes of training to administrators is a good investment.

Communication needs. Developing communication linkages among groups which generally have not worked together is the basis of training. Examples of such communication linkages are interdepartmental programs at universities, and the formation of interdisciplinary groups at state and local levels. Interdisciplinary collaboration by its nature is fragile and plagued by misunderstandings. The product/process training model demands a wide range of communication skills. It is necessary to expend much time to insure the success of the collaborative process.

Time constraints. Time constraint is the most pervasive impediment. There are many priorities for inservice training and little time available for many inservice programs. When training can be offered in career and vocational training for handicapped students, it is often difficult to find common meeting times in members' already busy schedules, even when projects can arrange released time or offer monetary compensation. State level conferences demand continuity from planning to follow-up. Participants often are not available for planning and follow-up sessions. Yet, despite all the time constraints, both university-based and local projects are meeting anticipated goals.

Although these major impediments need to be skilfully addressed, they have been found to be far from insurmountable. Although they require the expenditure of resources, much knowledge is gained with each success.

A Look Toward the Future

The VOC-MITS projects are developing prototypes for inservice in career and vocational education for handicapped students. Although these projects have been designated as nationally significant, they represent models based at the local level. Quality inservice cannot be implemented in one session and cannot represent the efforts of one "expert." Rather, inservice must be on-going and cooperatively planned by both participants and trainers. In these times of fiscal constraint, institutions of higher education, state education agencies, and local education agencies should begin to combine resources for collaborative inservice programs that can demonstrate actual change in educational opportunities for handicapped students.

References

Bolland, Kathleen and Skrtic, Thomas. *Regular education inservice: comprehensive vocational education for all handicapped persons—training educators to design, develop, and deliver inservice education,* (grant number G00791388 funded by the Division of Personnel Preparation, Office of Special Education, U.S. Education Department). Lawrence, Kansas: authors, 1979.

Fuller, Gerald R. and Hasazi, Suzan. *Program assistance grant: Professional development program for vocational special needs personnel,* (grant number G007901034 funded by the Division of Personnel Preparation, Office of Special Education, U.S. Education Department). Burlington, Vermont: authors, 1980.

Goldman, Leo and Flugman, Bert. *Field-based inservice training of regular high school staff: responding to the vocational and career needs of urban youth,* (grant number G007901257 funded by the Division of Personnel Preparation, Office of Special Education, U.S. Education Department). New York, New York: authors, 1979.

Griffin, Gerald et al. *The training of professionals in vocational education for the handicapped.* Chicago: Instructional Dynamics, Inc., 1978.

Hagerty, George and Taymans, Juliana. *Summary of voc-mits programming.* Unpublished executive summary, U.S.E.D., 1981.

McKinney, Lorella. *Regular education inservice, comprehensive vocational education for all handicapped persons: inservice support for transition from education to work,* (grant number G008000942 funded by the Division of Personnel Preparation Office of Special Education, U.S. Education Department). Columbus, Ohio: authors, 1980.

McNelly, Don E. *Inservice for delivering comprehensive vocational and career education services,* (grant number G007901228 funded by the Division of Personnel Preparation, Office of Special Education, U.S. Education Department). Knoxville, Tennessee.

Razhegi, Jane, *Regular education inservice (comprehensive vocational education for ann handicapped persons: training advisory council members and other key and local representatives,* (grant number G00800941 funded by the Division of Personnel Preparation, Office of Special Education, U.S. Education Department). Washington, D.C.: authors, 1980.

U.S. Office of Education. *Position statement on comprehensive vocational education for handicapped persons.* Washington, D.C.: Government Printing Office, 1978.

Juliana Taymans is a Graduate Assistant in Special Education and a Faculty Research Assistant on the University of Maryland Joint Personnel Preparation Project in Career/Vocational Education for the Handicapped. She has also worked as an intern with the Office of Special Education in the U.S. Department of Education and with the Dissemination Project.

George Hagerty is Advocate for Personnel Preparation Projects in Vocational/Career Education for the Handicapped at the U.S. Office of Special Education.

Faculty Resource Project for the Dean's Grant

Sharon Telleen

TO FACILITATE REVISIONS in the teacher education curriculum, a collection of resources for University of Maryland faculty members was compiled by the Dean's Grant. These resources were developed in response to three major needs: (1) training needs of public school teachers in the State of Maryland; (2) teacher competencies for mainstreaming developed by the Maryland State Department of Education and the University of Maryland; and (3) the resource needs of College of Education faculty.

Training for Maryland Teachers

During the three years of the Dean's Grant at the University of Maryland, data were collected to determine appropriate pre-service curricula at the University of Maryland. A survey of 685 teachers in the State of Maryland revealed three areas of training that could be best addressed in pre-service courses at the University (Anderson, 1981). These were: (1) information regarding Federal and State legislation concerning the education of mildly handicapped students; (2) characteristics of mildly handicapped students; and (3) teaching methods and techniques appropriate for handicapped students.

In a survey of both University of Maryland faculty and teachers in a nearby public school district of Maryland, teachers were asked to rank order the teacher competencies they believed were necessary for successful mainstreaming (Goodspeed and Celotta, 1981). Both University faculty and public school teachers ranked an understanding of the characteristics of the handicapped child as the most important competency. The regular educator needed to be familar with the causes and limitations of various impairments, compensatory behaviors and interventions. Appropriate instructional strategies and classroom management for integrated populations were also rated as important competencies by both University faculty and classroom teachers (ranked second and third respectively). Communication skills with parents, other teachers and administrators was ranked second by the public schools teachers. In particular, they were interested in communicating with parents about the

programming for their child and in communicating effectively with administrators in order to receive the necessary personnel supports and materials. Understanding student attitudes toward the handicapped and the State and Federal laws were also ranked highly by both groups. The public school teachers expressed a desire to understand P.L. 94–142, its rules and regulations, the provisions for non-discriminatory testing and parental permission for individual evaluation. The final area to receive a high ranking was skill in assessing student needs. The public school teachers were particularly interested in identifying, selecting and modifying appropriate assessment instruments.

In a colloquy held at the University of Maryland on March 5, 1981, Maryland public school educators from administration, elementary, secondary, special education and school counseling presented their perceptions of skills necessary for successful mainstreaming. They told the faculty of the College of Education that the University could provide pre-service instruction in many of the necessary skills. These included classroom management skills, task analysis to develop an instructional program, learning strategies necessary for students with varying disabilities, and use of appropriate assessments. They also needed to know the nomenclature of various handicaps and the law and educators' responsibilities under the law.

Common to all surveys and responses was the desire for skills that could be implemented in any classroom. These skills are the same teaching skills that are essential for good classroom instruction whenever there are individual differences among students.

Teacher Competencies for Mainstreaming

During the three year Grant period a list of teacher competencies was developed by the Maryland State Department of Education; similar competencies were developed by the University of Maryland, College of Education faculty (Anderson, et al., 1979). These competencies formed the organizational plan for the Resource Project.

University of Maryland Faculty Needs

The College of Education faculty were surveyed to determine the resources they needed to prepare teachers for mainstreaming (Rhoads, Roke, Malizio, 1981). Among the highest concerns were information on the Education for All Handicapped Children Act, the characteristics of handicapped students, appropriate teaching techniques for use with mainstreamed students, appropriate teaching strategies and the develop-

ment of Individualized Education Plans. The majority of the faculty (67%) wanted to establish a collection of media and materials in mainstreaming for faculty use in pre-service courses.

The Faculty Resource Project

In response to the need for information on available resources, the Dean's Grant provided a document containing annotated research articles, student readings and relevant media through its Faculty Resource project.

The purpose of the collection was to provide information for faculty and educators that would enable them to implement the instructional program necessary for competent teaching in a mainstreamed classroom. The regular classoom teacher has been asked to provide for a wide range of individual differences and this requires that all teachers have the skills of assessment, diagnosis, educational planning, instructional strategies for individualization, and knowledge of developmental abilities and disabilities.

The resources compiled went beyond information regarding the least restrictive environment clause of P.L. 94–142 and provided materials that were basic to educating *all* children. Though specific curricula for mainstreamed children was included, it was not the intent of the project to provide only a listing of curriculum materials available for use in the classroom. Nor was it to provide a list of pre-packaged materials for instruction in the College of Education. Public educators surveyed in Maryland did not request mainstreaming curricula from the University of Maryland but rather training in specific skills that could be generalized across a variety of commercially prepared materials.

Two strategies were used to compile the resources: (1) a comprehensive search of the available publications on educating in the least restrictive environment; and (2) a compilation of resources already used by College of Education faculty and/or available through the Dean's Grant. In the first strategy, a list of resources was chosen from the rapidly expanding data base of information on mainstreaming. Since the passage of P.L. 94–142 in 1975, there has been a proliferation of research and position papers on the mainstreaming of handicapped children. Over 1,000 documents are available through the ERIC system alone. In order to handle the large volume of materials on mainstreaming that is currently available to the faculty, a comprehensive and systematic approach was essential. The faculty Resource Project searched the following data bases on

handicapped children: Psychological Abstracts; ERIC; MEDLARS at the National Library of Medicine; SCORPIO, a service of the Library of Congress; and Exceptional Child Education Resources. The search included citations from 1965 to 1980. A number of criteria were used to determine the resources to be included. These criteria were: (1) relation to one of the stated competencies for mainstreaming; (2) the appropriateness of the research article, position paper or textbook for use in undergraduate, pre-service education; and (3) the usefulness as background information for faculty course preparation.

Once the most appropriate 150–200 documents were selected, the documents were located and obtained for a file in the Curriculum Laboratory. A classification scheme was developed and as each document or text was received it was classified. After reading each document, abstracts and annotations were written by the author and the final list organized and compiled.

In the second strategy, a listing was compiled from the resources faculty members indicated they were currently using. Many of these were incorporated into the list of resources and annotated.

The final product is a listing of resources for instruction in the teacher education program. Materials are organized according to the teacher competencies for mainstreaming. The resources are annotated and provide background information for use in faculty course preparation as well as material that could be assigned as undergraduate course readings. The resources listed are available to the faculty in the Lucia James Curriculum Laboratory in the College of Education.

Media (films, filmstrips and videocassetes) are listed separately. Since many of these cover a variety of areas they are not organized according to competency. The media that are not available at the University of Maryland can be ordered for use by Departments within the College.

It is the purpose of this resource collection to be available to University faculty and other professionals in the State of Maryland who are involved in pre-service preparation for mainstreaming and to serve as a response to the increased demand in the State for resources on mainstreaming.

References

Anderson, A. "A survey of school personnel from three Maryland school districts: Their needs and feelings relative to P.L. 94-142." *Mainstreaming Digest,* 1981.

Anderson, A., Blair, N., Goering, J., & Wheatley, J. "Suggested undergraduate teacher competencies for mainstreaming." Report of *ad hoc* Committee, Dean's Grant, November 1979.

Goodspeed, M. & Celotta, B. "Mainstreaming and teachers' competencies as perceived by teacher education and regular classroom teachers." *Mainstreaming Digest,* 1981.

Rhoads, D. J., Roke, E. J., & Malizio, A. "Faculty needs and attitudes toward P.L. 94–142 in the first and third years of a Dean's Grant." *Mainstreaming Digest,* 1981.

Sharon Telleen, Ph.D. is a part-time lecturer in the Institute for Child Study, College of Education, University of Maryland.
Dr. Telleen served as Consultant to the Faculty Resource Project, Dean's Grant and supervised the computer search, document acquisition, classification and abstracting of the resources.

Considering Aspects of Direct Contact Experiences with the Handicapped: A Means of Encouraging Positive Attitudes in Teachers

Joan Moir Dodge

IN RECENT YEARS, the passage of P.L. 94–142, The Education for All Handicapped Children Act of 1975, and various state laws for implementation have produced a revolution in the nation's educational system. This legislation mandated that not only must handicapped individuals have access to public education, but that the educational process must take place in the "least restrictive setting." This meant that for a majority of mildly handicapped students at least half or all of the school day would be spent within the regular classroom setting and with the regular classroom teacher.

Because of the important role of the classroom teacher in successfully integrating the handicapped student within a regular classroom, the issue of attitude toward the disabled has become a major concern for policy makers as well as researchers. Martin (1974) stated that one of the barriers to mainstreaming was the question of the attitudes, fears and anxieties and possibly overt rejection which may face handicapped children not only from their classmates but from the adults in the school as well. Keogh and Levitt (1976, p. 9) note that teachers' attitudes and knowledge about exceptional children are crucial to the mainstreaming process; however, these researchers questioned the ability and willingness of those in the regular educational program to make the changes necessary for successful mainstreaming.

Although much research attention has been given to assessing attitudes in teachers (Alexander and Strain, 1975), little work has focused on the kinds of experiences which may help to modify negative attitudes toward the handicapped. The purpose of this paper then is the following:

(1) to briefly summarize some of the research related to teacher attitudes toward the handicapped and toward the concept of mainstreaming; and
(2) to focus on recent research evidence that suggests how attitudinal shifts may occur as a result of direct experience with the handicapped.

Teacher Attitudes Toward the Handicapped

Studies by Murphy, Dickstein and Dripps (1960) and Panda and Bartel (1972) found that teachers generally preferred the "normal" or gifted student to other exceptionalities. Combs and Harper (1967) investigated the effects of labels on attitudes of teachers toward the labeled children. The authors concluded that labels do affect the attitudes of teachers but that the effects varied among exceptionalities. Shotel, Iano, and McGettigan (1972) found that teachers preferred the educable retarded. Contradicting this study, however, Rumble (1978) in a project report for the Portland Research Project found that 52% of the teachers indicated a willingness to work with the emotionally disturbed.

Harasymiw, Horne, and Lewis (1976) in a longitudinal study of people's acceptance of 22 different disability groups found that those disability groups which were least debilitating were most acceptable. Consistent with these results were Conine's (1969) findings that elementary teachers were neither more nor less accepting of disabled persons and did in fact reflect public attitudes toward the disabled. Results from these and other similar studies seem to indicate that teachers' attitudes toward the handicapped are neither more nor less positive than the population in general.

Although it is still questionable as to which type of handicapping condition teachers prefer over others, generally the more serious and more deviant in terms of behavior and appearance, the more negative will be the teacher's attitude. It is important to state here, however, that although there has been extensive research recently in measuring teacher attitudes toward handicapped children, caution must be used in drawing any conclusions from the data. Gottlieb and Superstein (1976) stated that a primary reason for the nonconsensus of results has been the failure of investigators to describe precisely the referent about whom subjects are asked to express their attitudes. They also point out that the different attitude scales employed by the researchers are not equally sensitive in detecting differences in attitudes. It should be pointed out, however, that the studies which have been done are an important basis for further work in the area of attitude research.

Teacher Attitudes Toward Maintreaming

Although research on teacher attitudes toward the handicapped has been an important focus, a more recent but somewhat different question is the regular teachers' attitudes toward placement of the handicapped in a regular classroom. Blazovic (1972) found that teachers ascribed greater

benefits academically, socially and vocationally to special classes for the educably mentally retarded child (EMR). They also saw the EMR child as being more different and a disruptive element in the regular class. These same results were confirmed by Geckling and Theobald (1975) when they investigated teacher (regular and special) and administrator attitudes toward mainstreaming. The sample consisted of 183 regular educators and 84 special educators in 14 school districts. Results showed that 60% of both regular and special education teachers felt that self-contained classes had proven to be more effective than regular classes for mildly handicapped children. Over 40% of all respondents expressed a preference for retaining self-contained classes. On the other hand, only 15% of the regular teachers felt that they had the skills to help exceptional children; 80% of the teachers indicated that they would feel more comfortable if special teachers were to assist them in their classrooms.

Vacc and Kirst (1977) studied attitudes of teachers toward mainstreaming emotionally disturbed (ED) children. Their results again showed that regular classroom teachers believed ED children should be segregated into special classes within the regular school setting, although the teachers also recognized that it would be beneficial for these children to be in regular classes. Shotel, Iano and McGettigan (1972) looked at the issue of integration of three disability groups—educably retarded, emotionally disturbed and learning disabled—on regular teacher attitudes. The experimental teacher group was provided supportive services through a resource room. Although the handicapped children were assigned to the resource room for varying lengths of time during the day, the regular classroom teacher did have primary responsibility for these students. Comparison of results on these teachers' attitudes pre- and post-tests showed a significant *drop* in their attitude toward integration for the educably retarded group. Total results seem to indicate that "integrating handicapped children into regular classes with support services provided by resource rooms had slight, if any, effects on teachers' attitudes toward educably retarded and learning disabled children and moderately positive effects on teachers' attitudes toward emotionally disturbed children" (p. 683). In addition, 99% of both experimental and control teachers on both pre- and post-tests felt they needed special methods and materials for teaching handicapped students.

At this point in time, there are two studies which contradict the pervasive attitudinal resistance toward mainstreaming. The first study was conducted by Gullota (1974, p. 49) to assess teachers' attitudes toward the placement of an emotionally disturbed child. His sample was 50 students

from a graduate education course who were given a case history and asked to indicate whether they would recommend each of ten suggested solutions along a Likert scale. His results showed that "teachers have the attitude that as long as they are provided with the necessary support needed to maintain and help this type of child, they are willing to keep the youngster in their classes." Hewitt and Watson (1975) asked elementary teachers how six hypothetical children with behavioral and learning problems should be taught in a regular class. Results in this study showed that the majority of teachers felt these exceptional children should be taught in the regular program but were uncertain as to how to meet the demands that such teaching required.

In summary, the results of the majority of these studies seem to indicate that present regular teachers hold both positive and negative attitudes toward the handicapped; however, teachers feel reluctant toward integrating such individuals into the mainstream of their classrooms because of lack of knowledge and increased demands that such integration may necessitate.

Contact Experience As a Factor in Modifying Attitudes

In a recent review on changing attitudes toward the handicapped, Donaldson (1980, p. 505) stated "the literature contains relatively few studies that focus on the modification of attitudes toward the handicapped." The author outlined six categories that have been used to modify attitudes. They included:

(1) direct or indirect contact with disabled persons,
(2) information about disabilities,
(3) persuasive messages,
(4) analysis of the dynamics of prejudice,
(5) disability simulation, and
(6) group discussion.

Although each of these categories need further research in order to delineate precise elements, the category of direct contact with the handicapped has clear implications for the training of teachers. For this reason, contact experience with the handicapped will be explored more fully in terms of both the theoretical basis as well as current studies in this area.

Allport (1954) in *The Nature of Prejudice* illustrates the complexity of the effect of contact on attitudes when he cites a list of variables which act separately and together in relationship to a contact experience. (In his book Allport is referring to contact between Negroes and Caucasians;

however, the concepts are relevant to other groups.) Different aspects of the contact factor that must be considered include: quantitative aspects, such as the frequency, duration, number of persons, and variety of contact; status aspects; role aspects, such as whether the relationship is competitive or cooperative, superordinate or subordinate; social atmosphere surrounding the contact; the personality of the individual; and the areas or places that the contact takes place. Allport summarizes his conclusions in the following statement:

> Prejudice (unless deeply rooted in the character structure of the individual) may be reduced by equal status contact between majority and minority groups in the pursuit of common goals. The effect is greatly enhanced if this contact is sanctioned by institutional supports (i.e. by law, custom, or local atmosphere), and provided it is of a sort that leads to the perception of common interests and common humanity between members of the two groups (1954, p. 281).

Studies on the effect of contact with disabled persons have shown that both negative as well as positive attitudinal shifts can occur (Coburn, 1971; Evans, 1926). Donaldson (1980) in reviewing this area indicates that when direct contact is subdivided into nonstructured direct experiences and is compared to structured, controlled experiences, results indicated more negative shifts or no change in attitude in the unstructured as compared to the structured contact. The author concluded that providing opportunities for interaction between disabled and non-disabled persons does not necessarily insure positive attitudes. In fact, it is possible that unstructured contact situations may even reinforce stereotypes of the handicapped!

Implication for Teacher Training

It would appear from research results that teachers are neither more nor less positive toward the handicapped than the general population. In addition, many teachers are reluctant and fearful of having handicapped students in their classroom because of their perception that they lack the necessary skills to meet the educational needs of these children.

In order to overcome some of this reluctance, it is essential that teacher preparation programs provide teachers-in-training both knowledge about, and experiences with, the handicapped. However, it is also vital that the contact experiences which are provided be carefully designed and implemented in order to insure that positive attitudes are formed and stereotypes are broken down.

One aspect of the contact experience which Donaldson (1980) points out results in more positive attitudes when disabled persons have at least equal status in relation to non-disabled persons. While this aspect is difficult to achieve within the teacher-student role, some of the other aspects which had been mentioned previously by Allport may help teacher educators in designing positive experiences with the handicapped. In addition, these variables are important foci for research attention.

A contact experience which is designed to allow for frequent and lengthy interchange between individuals, which is cooperative in nature, which is facilitated by a nurturing and trusting environment and in which mutual goals can be achieved, would most probably result in a positive shift of attitudes. What is essential to this process of designing a contact experience between a beginning teacher and handicapped students is that enough time, thought and work are given to the setting-up and carrying-out of these experiences to insure that mutual and meaningful relationships develop between the teacher and the students.

References

Alexander, C. and P. Strain. A review of educators' attitudes toward handicapped children and the concept of mainstreaming. *Psychology in the Schools,* 1978, 15, 390–396.

Allport, G. *The Nature of prejudice.* Reading, Mass.: Addison-Wesley Publishing Company, 1954

Blazovic, R. R. The attitudes of teachers, parents and students toward integrated programs for borderline educably mentally retarded students. *Dissertation Abstracts International,* 1972, 32

Coburn, J. M. Attitude changes in vocational rehabilitation counselors related to the physically disabled during induction preparation. *Dissertation Abstracts,* 1972, 33, 4084

Combs, R. and J. Harper. Effects of labels on attitudes toward handicapped children. Exceptional Children, 1967, 33, 399–403

Conine, T. A. Acceptance or rejection of disabled persons by teachers. *Journal of School Health,* 1969, 39, 278–281

Donaldson, J. Changing attitudes toward handicapped persons: A review and analysis of research. Exceptional Children, 1980, 46, 504–514.

Evans, J. H. Changing attitudes toward disabled persons: An experimental study. *Rehabilitation Counseling Bulletin,* 1976, 572–579.

Geckling, E. and J. Theobald. Mainstreaming affect or effect. *Journal of Special Education,* 1975, 9, 317–328.

Gottlieb, J. and G. Superstein. Attitudes toward mentally retarded persons: Effects of attitude referrant specificity. *American Journal of Mental Deficiency,* 1976, 80, 376–380.

Gullota, T. D. Teacher attitudes toward the moderately disturbed child. *Exceptional Children,* 1974, 41, 49–51.

Harasymiw, S., M. Horne, and S. Lewis. A longitudinal study of disability group acceptance. *Rehabilitation Literature,* 1976, 37, 98-102.

Hewitt, F. and P. C. Watson. Teacher attitudes toward mainstreaming; A preliminary report. (Technical Report). Los Angeles: University of California, 1975.

Keogh, B. and M. Levitt. Special education in the mainstream: A confrontation of limitations. *Focus on Exceptional Children,* 1976, 8, 1–11.

Martin, E. W. Some thoughts on mainstream. *Exceptional Children,* 1974, 41, 150–153.

Murphy, A., J. Dickstein, and E. Dripps. Acceptance, rejection and the hearing handicapped. *The Volta Review,* 1960, 62, 208–211.

Panda, I. C. and N. C. Bartel. Teacher perception of exceptional children. *Journal of special Education,* 1972, 6, 261–265.

Shotel, J., R. Iano, and J. McGettigan. Teacher attitudes associated with the integration of handicapped children. *Exceptional Children,* 1972, 38, 677–683.

Rumble, R. Mainstreaming the handicapped in vocational education—literature review (ERIC Report ED 162 475), Portland, Oregon: Research Project in Portland Public Schools, January, 1978.

Vacc, N. and N. Kirst. Emotionally disturbed children and regular class teachers. Elementary School Journal, 1977, 77, 309–317.

Joan Dodge is a doctoral candidate in the Institute for Child Study where she served as a graduate teaching assistant for two years. She served as Interim Coordinator for the Dean's Grant at the College of Education in 1981. Her background and work experience has been in Special Education for emotionally disturbed/behaviorally problemed students. Current interests include school environments and mental health factors of teachers.

An Approach to Faculty Involvement in Curriculum Change:
College of Education Colloquy

Jean R. Hebeler

TWO OF THE GOALS of the Dean's Grant proposal for the University of Maryland, College Park were:

(1) to provide training and development of professional personnel who can prepare regular teachers, counselors, and school administrators for functioning in their respective roles in relation to the mainstreamed handicapped student, and

(2) to review, assess, and modify the existing degree programs to include pre-service learning experiences that prepare future generations of teachers, counselors and administrators for functioning in the mainstreamed environment.

Thus, the goal of the faculty retraining subcomponent was two-fold:

(1) to make the College of Education faculty aware of the implications of legislation for the preparation of educational personnel, and

(2) to develop competencies needed for preparing teachers, counselors and administrators to function in mainstreamed learning environments.

One of the major activities undertaken in the College to achieve these objectives was an all-day Colloquy which involved faculty from all units of the College and relied heavily upon the reality-base orientation and experiences of professional practitioners from the public schools of Maryland.

On March 5, 1981 the first Annual Colloquy entitled "Refocusing the Preparation of Professionals to Emphasize the Individual" was held.

The Colloquy was sponsored by the Interdisciplinary Planning Committee of the Dean's Grant Project. All faculty of the College were invited to attend by George Marx, Assistant Provost for Education. As noted, the purpose of the Colloquy was to provide an opportunity for the College of Educaton faculty at the University of

Maryland, College Park, to focus on the need for and the implications of providing appropriate content and experiences for students in training as professional educators to the needs of exceptional populations.

Dr. Robert Howsam, professor at the University of Houston and national consultant in issues relevant to Teacher Education, provided a keynote address in which he focused on the interface of current social issues and concerns including handicapped students and the development of the profession of education. Implications for delivery programs and training programs were addressed.

Following that a panel of five practitioners from the public schools of Maryland provided their reactions to the impact of P.L. 94-142 upon their professional roles. The panelists included an elementary principal, a counselor, an elementary teacher of regular grades and a special education resource teacher. In addition to the impact on their professional roles, the panel members also identified aspects of training which they felt needed to be stressed in order to prepare future professionals for serving exceptional students in the regular classroom.

The third segment of the Colloquy consisted of role-alike dialogue between College of Education faculty and approximately 40 practitioners regarding the following different professional roles: administrator, counselor and pupil services, elementary teacher, secondary teacher, and special educator. The purpose of this dialogue was for the practitioners and College faculty to further explore implications of the concept of serving mildly handicapped students in the regular classroom and possible approaches to preparation (pre-service, in-service, advanced) which would better prepare the professional educator for the expanded role.

Dr. Howsam provided a summary in which he pulled the salient implications from the various discussion groups for transference to the training and research and development endeavors of the College of Education.

Eighty to one hundred members of the College of Education faculty attended all or at least portions of the Colloquy. The dialogue yielded some discussion of affect regarding the new responsibilities. Many felt unprepared and had to question much of their current philosophy and practice in order to deal with expanded responsibilities. Discussions also focused on skills and content needed—these ranged from information regarding the population to process skills in dealing with more unique learning and/or behavior problems; extended competencies of

some roles; and the need for more attention to skills inherent in the team-collaborative format in working with other professionals as well as parents and community services. In addition to implications for the training programs of the College, including field experiences, the need for continued follow-up and support of professionals in their roles was cited as a critical element.

The Colloquy provided a format for faculty to become aware and communicate with counterpart practitioners concerning the implementation of the concept of appropriate programs in the least restrictive environment. It is intended that individuals and units will continue to follow this very enthusiastic beginning.

Jean R. Hebeler is a Professor in the Department of Special Education in the College of Education, University of Maryland. She also chaired the Interdisciplinary Planning Committee for the Dean's Grant.

Communication with Parents of the Handicapped:
Some Hints for Teachers

Paul W. Power

and

Nancy Blair

Introduction

P.L. 94–142, the Education for All Handicapped Children Act of 1975, has created for the regular classroom teacher a new set of demands for added knowledge and skill development. Already needing a variety of skills to work effectively with children, teachers must now extend their versatility to accommodate the learning needs of disabled children. But since the family is a partner in the educative efforts for children, this versatility also includes establishing a helping relationship with the parents of the handicapped.

To explore how this relationship can best be developed and to identify what are the essential skills necessary for effective communication with parents, a grant project was conducted by the authors in the Fall of 1979 at the College of Education. This project, as part of the Dean's Mainstreaming Grant, entailed inviting seven parents to share their views with the authors about the education of their handicapped children. In five half-hour videotaped sessions, with each session including one or two parents and the authors, they discussed their difficulties and positive experiences between themselves and regular classroom teachers. From these discussions a teaching module was developed that focused on the ingredients of effective communication between parents and teachers. The videotapes are also available as a resource for classes that wish to include in their curriculum material the teaching of communication skills.

These sessions with the parents, however, produced more than content material for a teaching module. They became both a medium through which these parents expressed their dominant concerns with teachers and

a way to help them crystallize several suggested approaches to improving their own relationship with the schools. These approaches evolved from an elaboration of the obstacles to teacher-parent communication into an identification of the roles that a regular classroom teacher could assume with a parent of a handicapped child.

Obstacles

All the parents believed that the teacher had generally low expectations for them regarding their ability to contribute to the education of their handicapped children. A "guilt trip" was often imposed on them by the teacher, which, in turn, only provoked feelings of resentment and defensiveness. One couple voiced their continued concern about a teacher who regards them as different—diferent in feelings, attitudes, understanding, and personality style—because they gave birth to a child with a disability. Low expectations also centered around the parent's knowledge of the child's educational weaknesses and strengths, how the home could become a more facilitative environment for learning, and the quality and quantity of their information about the handicapping condition. Importantly, these low expectations were perceptions apparently harbored by many teachers before meeting initially with the parents.

The discussions also identified the many assumptions that several teachers have of how they would like the parents to be, instead of how the parents really are. Interestingly, many teachers confuse their own personal or professional experience with the family's experience in dealing with a handicapping situation. Yet, the parents felt that it is not necessary that teachers have identical life experiences or personal living encounters with the handicapped to be able to understand them. Similarity of experience should not be seen as the only basis for understanding in a relationship.

Further obstacles to communication were pinpointed, such as a teacher not taking the initiative in contacting a parent, or a school which overloads so many responsibilities on teachers that communication time with parents is minimal. But these parents also pointed the finger towards themselves and expressed how their own attitudes often inhibit a helping relationship with a teacher. Parents who feel they have all the answers and who wish to impose them upon one and all, or those who, when talking with a teacher, prefer to dwell on family history and lose contact with the reality of the here and now: each communication "style" represents a barrier to mutual understanding. Also, the parents in this project referred many times to their own fears, anxieties, and apprehensions when dealing

with a professional, especially a classroom teacher or principal. This fear is a stumbling block to an articulation of their own needs, knowledge, and hopes for their disabled child.

The obstacles identified during the project, however, were greatly outweighed by the many suggestions that could be used by teachers for building more effective communication skills with parents. These skills are conceptualized by the authors as entwined in three roles, i.e., listener, information provider, and advocate. Each role can help to establish a strong working relationship between the parent and the disabled child's teacher.

While these roles can be instrumental to productive communication, their effective implementation demands that a teacher have the conviction that communication with the parent is vital to the education process. This is particularly true for a family with a disabled child. Family members can have a decided influence on the lasting effect of what has been taught in the classroom. An overprotective parent can undo the constuctive help initiated by the teacher, while a cooperative parent can extend in new and more relevant ways the teaching begun in the classroom. To involve the family in the client's rehabilitation is called in vocational rehabilitation the "Wholistic Approach." In teaching it can be aptly referred to as the excercise of good common sense.

The Listening Role

During this grant project many of the parents expressed their feeling of grief, anguish, and frustration in parenting their disabled child. When they initially met with a teacher, these parents stated that they prefer to have someone who, during the beginning minutes of the meeting, listens to their feelings. Parents presume when talking with a teacher that they are going to be immediately lectured to, and it is a welcome surprise when they are initially asked about their own viewpoints, expectations, and concerns. The teacher's listening breeds, then, mutual respect and fosters a human relationship characterized by caring, dignity, and openness. Listening contributes to a forum in which parents and teachers can delineate their own functions. It is a way by which a teacher can determine the parents' willingness and ability to contribute to the education of their disabled child.

Effective listening, of course, means that the teacher suspends any judgment about the parents, attends to and observes very closely what is being said, and tries to avoid any distractions during the communication encounter. A good listener cultivates respect from the other, for the

message is conveyed: "I am very interested in what you are saying." If the teacher wishes to effect any change in the parent's way of responding to the educational needs of the child, then listening is really essential. It conveys to the speaker, "I appreciate and respect you," and these realizations are the first step to any important change.

In initiating a listening style at the beginning of a meeting with parents, the teacher also becomes a model of listening for these parents. All of the parents who were videotaped emphasized that when they became aware they were at least being listened to, they, in turn, began to listen themselves. Their own listening then made them much more receptive to the advice offered by the teacher.

Provider of Information

Many parents talked about their discouragement and their need for help in meeting the day-to-day problems in raising a handicapped child. Though classroom teachers are unable to respond to all of the parental needs, they can still provide accurate information about the child's progress. This need was highlighted during the project discussions. It was mentioned that teachers could also suggest ways on how the parents can continue the child's education in the home. But all of these suggestions necessitate from the teacher a knowledge of the child's handicapping condition, the home environment, and what responsibilities can be adequately assumed or shared.

In frequently identifying their own feelings of anxiety and even inferiority when talking with teachers, these parents stated that an occasional note from the teacher about how well the disabled child is doing can go a long way to boost feelings of self-esteem. In particular, however, three points were made of special relevance when imparting information. One, the teacher should not use professional jargon in talking with the parent. Employing professional language in this situation only widens the gulf between the two worlds, and many parents are hesitant to ask what the teacher means. They don't want to be embarrassed and will simply nod their head and go off and do something else, or implement the teacher's advice incorrectly. Teachers can tactfully ask parents if they understand what is being said; and when done in a diplomatic way, can assure the follow-through of many excellent suggestions.

Second, some of the parents mentioned that they appreciate a written summary of what was discussed by the teacher in their particular meeting. This can be in outline form, but since parents are often anxious when talking with the child's teacher, this summary becomes a continued

reminder of recommendations. True, it takes time, but the summary can facilitate the continued productivity of the meeting.

Third, timeliness of communication is an important concern. Parents do not want to be told about their child's school performance or disruptive behavior at the end of the school week. They wish immediate feedback, feedback that may also include the positive aspects of the child's conduct. Timing, though, is an added factor in building a trusting relationship between the parent and teacher, for the parent becomes strongly aware of the school's interest in the child's progress.

Advocacy Role

Often the teacher will discover when talking with the parent that within the home there is a "parental style" or family behavior problem which is detrimental to the productive efforts of the disabled child in the classroom. These behaviors could include inattention to the disabled child's school needs, over-protectiveness, or lack of information or training in how to manage disablement. Advocacy means, therefore, representing the best interests of disabled children and speaking up for them when a change should occur. It was of some surprise to the authors when many parents reluctantly stated that they did not know the most appropriate way for the disabled child to adjust to such new situations as the classroom and new school friends. In these matters the parents not only need advice, but someone to explain to them the unique needs of their child when confronted with a new experience.

But effective advocacy presumes again a trusting relationship between the parents and teacher. Good listening, the imparting of accurate information, and the parental contribution of their own thoughts and actions; each can foster this relationship. However, the teacher often has to take the initiative as an advocate for the child in order for any change to occur.

Conclusion

This project as part of the Dean's Mainstreaming Grant revealed to all the participants that for PL 94–142 to ever become effective, it really means a partnership. For the handicapped child the partnership can be established in many areas; but for parents it implies that one of the most important areas is between themselves and the child's teacher. For the teacher the partnership further conveys extended responsibilities, such as good listening, timely imparting of information, and advocacy. These roles and functions establish effective communication and invite teacher

preparation programs to take up the challenge to help students develop such skills.

Paul W. Power is an Associate Professor
and Director of the Rehabilitation Counseling Program.
He has specialized interests
in the role of the family in rehabilitation.

Nancy Blair is an Assistant Professor in Special Education
with background in a wide range of disabilities.
She has been a member of the Interdisciplinary Planning Committee on Mainstreaming
for two years and is currently engaged in research
on job attitudes of teachers in the State of Maryland.

Facilitating Social Interaction Between Handicapped and Nonhandicapped Preschoolers

Paula Beckman-Bell
and
and Barbara Stettner

THE INTEGRATION OF handicapped and nonhandicapped children at the preschool level has become a topic of growing interest to researchers and educators in recent years. Prior to 1975, research in the area of mainstreaming was confined primarily to samples of older children and was typically sociometric or attitudinal in nature. However, with the proliferation of early intervention programs and current policies mandating that children be placed in the "least restrictive environment," the preschool period has become identified as a particularly useful time to begin the process of educational integration (Bricker, 1978; Guralnick, 1976; Devoney, Guralnick and Rubin, 1974; Wolfensberger, 1972).

Most efforts to investigate preschool mainstreaming have focused on the social interactions occurring between handicapped and nonhandicapped children. A small but growing body of research has consistently indicated that when no attempt is made to influence interactions between children, nonhandicapped children tend to interact primarily with other nonhandicapped children and relatively little with handicapped children (Ray, 1974; Bell[1]; Porter, Ramsey, Tremblay, Iaccobo and Crawley, 1977; Devoney, Guralnick and Rubin, 1974; Cavallaro and Porter, 1980). As a result, there have been a number of attempts to develop specific strategies which will facilitate interaction among preschool children. The purpose of this paper is to review the range of techniques that have been proposed and to identify those which have been found to be particularly useful to teachers.

The strategies designed to facilitate integration which have been proposed in the literature vary both with respect to the amount of empirical evidence available to support them and with respect to the specific element(s) targeted for intervention. For purposes of this review, these strategies have been divided into two general program issues, such as the theoretical orientation of the program or the ratio of handicapped to

nonhandicapped children. The second category includes strategies utilizing the direct involvement of other people (such as teachers and peers) to facilitate interaction. As these techniques are presented, a distinction will be made between those that are supported by empirical evidence and those that are in need of systematic investigation.

General Program Issues

Theoretical Orientation of the Program

One of the most basic concerns of any preschool is the theoretical orientation under which it operates. Although this issue as it relates to mainstreaming has received only minimal attention in the literature and has not been targeted for empirical investigation, Anastasiow (1978) has argued that some theoretical models may better lend themselves to the integration of handicapped and nonhandicapped children. Specifically, Anastasiow describes four major models commonly utilized in early childhood programs as they relate to mainstreaming. These include the normal development model, behavioral model, cognitive developmental model, and cognitive learning model. Anastasiow argues that both the normal developmental and the behavioral models present problems for successful integration. In his view, the normal developmental model focuses on how the child is performing in relationship to group norms in areas such as reading and arithmetic readiness as well as in social control (sitting quietly, raising his hand, etc.). In addition, there is heavy emphasis on group instruction; as a result, such programs are not well equipped to incorporate handicapped children into the structure of their classroom.

In contrast, behavioral programs were originally designed to deal with exceptional children. As a result of this emphasis, these programs are particularly useful in attempts to ameliorate problem behaviors. However, Anastasiow argues that behavioral programs have not yet demonstrated that they can simultaneously focus on remediation and complex skill development, a combination that is critical in integrated settings.

Cognitive developmental models are typically based on Piagetian theory and stress learning through active experience. Anastasiow argues that this model is attractive as a means of developing problem solving techniques and creativity, but believes that it is not suitable for severely impaired children. The cognitive learning model, which combines the principles of applied behavior analysis with cognitive developmental theory, appears to be suitable for nonhandicapped preschoolers as well as

even the most severely involved preschoolers. Although Anastasiow's analysis of programs based on differing theoretical approaches is interesting and potentially useful, it has yet to be tested empirically. Such documentation is essential before any statements can be made regarding the superiority of any given approach with regard to mainstreaming.

In addition, it may be that the theoretical approach taken by the program is not as critical as other, more specific program elements. For example, Anastasiow points out that the cognitive developmental and the cognitive learning models emphasize individual differences in children across a wide set of behaviors. It may be that more specific elements (such as the ratio of teachers to children) are more critical to social interaction than the general theoretical approach taken by the program.

Class Size and relative Proportions

The overall number of children present in the classroom, the ratio of teachers to children, and the ratio of handicapped to nonhandicapped children are all variables that may influence the amount of social interaction that occurs in the classroom. Unfortunately, very little empirical evidence is available suggesting the size and relative proportions that are needed to facilitate interaction. One interesting study conducted by Wegley-Brown, Schimneller, and Peters[2] provides at least preliminary information concerning this issue. These authors identified a range of teacher, child, and program characteristics that were potientially related to the social interaction of children in 58 integrated preschools. Program characteristics included the number of children present in the classroom, the ratio of handicapped to nonhandicapped children and the ratio of teachers to children. These authors reported no relationship between children's social interaction and the ratio of handicapped to nonhandicapped children or the teacher-child ratio. However, they did find that higher levels of social interaction and social play occurred in classrooms containing more children. The authors reported that the mean size of the 58 classrooms was 17.9; however, the actual range was not reported. As a result, it is somewhat difficult to determine the most ideal class size for purposes of integration.

Interpreting the data concerning the ratio of handicapped to nonhandicapped children presents similar problems. Although a mean ratio of 1:4 was reported, the relative ratios across the 58 preschool settings was not clear. However, this information is critical in order to interpret the lack of a significant relationship. Specifically, if there was little variation in the size of the ratio across the 58 classrooms, it would reduce the possibility

of finding a significant relationship. The same problem is present when the ratio of teachers to children in the classrooms is considered.

It is clear that much more information is needed concerning the effect of class size and the relative numbers of handicapped children, nonhandicapped children, and teachers. The paucity of information currently available is somewhat surprising as several investigators have suggested that such numbers may be important to the social interaction process (Karnes and Lee, 1979). It seems logical that the rate of interaction between nonhandicapped and handicapped children might be very different in a situation where one handicapped child is integrated with 20 nonhandicapped children than it would be in a situation in which five handicapped children and five nonhandicapped children are brought together. Further, the relative proportions would be a variable that might be easily manipulated and therefore particularly useful for purposes of intervention.

Context

Another variable which may influence social interaction between handicapped and nonhandicapped children is context. For example, social interaction may be more easily facilitated during free play than during individual tasks. Two studies have been reported in the literature which provide at least preliminary support for such a hypothesis. In the first study, Brackett and Henniges (1978) examined communicative interactions between hearing-impaired and normally hearing children in an integrated preschool. These authors discovered that significantly more communicative interactions were initiated during free play than during structured language groups.

Using a somewhat different approach, Cavallaro and Porter (1980) studied the social interactions and peer preferences of seven developmentally delayed and thirteen normally developing children in social play, gaze interaction, seat preferences and choice of partners in a game. They reported that children engaged in more social play and gaze interaction with children from their own subgroup than with other children. Nondelayed children also preferred other nondelayed children when they chose game partners and selected seat locations. However, delayed children showed no preferences in the last two circumstances. The authors suggested that context had a strong influence on the behavior of children in an integrated setting.

These findings have clear implications for teachers and researchers. Context is a variable that must be controlled for investigations of interac-

tion between handicapped and nonhandicapped preschoolers. Such results are critical for purposes of interpretation and must be carefully documented. Teachers may also want to use this information to facilitate social interaction among children in their classroom. For example, if an objective can reasonably be taught in a variety of ways, teachers might be encouraged to select the context which is most likely to facilitate interaction between children.

Play

Two major strategies have received attention in the literature as potential targets for intervention. Both of these involve manipulating particular aspects of children's play and as such are very closely related to the issue of context. It appears from the literature that social interaction can be facilitated by structuring children's play in very specific ways (Devoney, Guralnick and Rubin, 1974; Strain and Wiegerink, 1976) and by manipulating the availability of certain kinds of play materials (Quillitch and Risley, 1973).

At least two studies are available in the literature which provide differing examples of the ways in which play can be structured to influence social interaction. Devoney, Guralnick and Rubin (1974) provided one of the first examples of this approach when they studied the play behavior of seven handicapped preschoolers. These authors observed the children's play behavior prior to integration with nonhandicapped children and reported that the children engaged in relatively little social play. Following this baseline observation, these investigators introduced a group of nonhandicapped children into the classroom without making any attempt to influence children's play. Under this condition, the authors reported only slight increase in the amount of social play the children engaged in. In the final phase of the study, the play situation was structured for the combined group of children. Under this condition, substantial increases in the amount of social play resulted. Although the details of the way in which the play was structured are not available, this study is important since it was among the first to demonstrate that attempts to structure play in a predesigned fashion was a useful means of facilitating social interaction.

In another study, Strain and Wiegerink (1976) observed the social play of preschoolers who manifested a number of behavior disorders following participation in sociodramatic activities. Results of the study showed a substantial increase in social play following intervention, lending support to the notion that social interaction can be facilitated by specific

attempts to manipulate the play situation. Thus, it would appear that structuring children's play is a potentially useful way of facilitating interaction. More research is needed to specify the types of play situations and the techniques that may be most useful in order to develop a broad range of alternatives for teachers.

It also appears that the equipment, toys and materials available in the play setting may have a dramatic influence on the amount of social interaction observed between children. One early study demonstrating the importance of such equipment was conducted by Buell, Stoddard, Harris and Baer (1968). They reinforced one three-year-old's use of outdoor play equipment and found that not only did the child's use of the equipment increase but the child also showed a collateral increase in certain social behaviors such as verbalizing to other children and engaging in cooperative play.

Results of another study, conducted by Quillitch and Risley (1973) also indicate that certain toys and materials are more likely to result in interaction between children than others. These authors categorized toys as either isolate in nature or social in nature and found that the amount of time that seven-year-old disadvantaged children spent playing together depended upon the presence or absence of various toys. Specifically, when isolate toys such as crayons were available, children played together only 16 percent of the time. However, when social toys such as checkers were available, children played together 78 percent of the time.

The nature of available play materials is also a critical variable in the previously described study carried out by Wegley-Brown, Schimneller and Peters[2]. These authors reported more social interactions in classrooms which had more complex play materials.

These studies together consistently support the suggestion that the nature of available play materials is a critical factor in the social interaction that tends to occur between children. As a result, it appears to be an area that should be considered by teachers as they are planning activities and purchasing classroom materials.

Direct Intervention by Teachers and Peers

It is clear from the preceding discussion that interaction between children can be facilitated indirectly (i.e., structuring play; making specific types of play materials available; changing the types of classroom activities, etc.).

In addition, there appear to be a number of strategies available that involve the direct participation of peers and teachers. For the most part,

these techniques are behavioral in nature, utilizing well-established principles of reinforcement to train specific, desirable behaviors. For purposes of this discussion, these strategies have been grouped according to whether it is the teacher or the child's peers who are the agents of intervention.

Teacher Reinforcement

Teachers have long utilized the principles of reinforcement to modify the behavior of their students. The systematic use of adult attention can be an effective instructional tool in integrated settings as well. Several methods of using contingent adult attention to increase or decrease desired behavior of preschoolers have been identified (Apolloni and Cooke, 1978; Berry and Marshall, 1978; Strain, Cooke, and Apolloni, 1976; Strain and Timm, 1974; Cooke[3]).

Berry and Marshall (1978) studied four mentally retarded preschoolers with only minimal language skills in an educational center for developmentally delayed children. The children were videotaped with audio recording devices in six prearranged play settings. In three settings, the children were placed in a room without the presence of a teacher and with specific toys. Children were also placed in three identical settings in which a teacher was present. Interactions were observed and coded according to the following categories: verbal interactions (vocalizations or expressive language); nonverbal interactions (gestures, smiles) and physical contact (body contact not involving language, i.e., pushing away). The authors reported significantly more gestures, vocalizations and language when the teacher was present. The results of this study suggest that the presence of the teacher alone can be an effective way of facilitating social interaction among preschoolers.

Strain and Timm (1974) studied the effects of two types of contigent adult attention (verbal praise and physical contact) on the behavior of handicapped preschoolers. Adult attention was delivered either to the handicapped child for appropriate social interactions with peers or to peers for appropriate interaction with the handicapped child. Results indicated that direct reinforcement of handicapped children increased the frequency of desired behaviors more than reinforcement of peers. However, the authors identified a 'spillover' effect. Specifically, changes in the behavior of the handicapped child paralleled the changes in the peers' behavior (and *vice versa*) regardless of who was being reinforced. One explanation offered by the authors was that teacher proximity and nonverbal communications (e.g., smiles) may have influenced the rate of

response by all of the children. This confounding situation could be a problem any time adult attention is utilized as a reinforcement technique in a preschool setting.

Strain, Cooke and Apolloni (1976) have suggested that the social behaviors of preschoolers may be modified through the use of reinforcement techniques. They argue that positive reinforcement in the form of teacher attention can be delivered to reinforce desirable behavior, while negative reinforcement, such as withdrawal of teacher attention, can be used to reduce the rate of undesirable behavior. Almost any type of adult attention normally used by a teacher as part of his or her classroom repertoire can be a potentially useful tool in this regard. For example, verbal praise, physical contact, dispersion of primary reinforcers such as candy, or one to one 'special time' may be used to facilitate desired behaviors. In choosing a technique, teachers must identify types of adult attention that appear especially reinforcing for a particular child and consider whether the type of attention being considered is appropriate for a given situation.

In addition to the type of reinforcement used, the schedule of reinforcement is also an important consideration. Available evidence suggests that an intermittent schedule may reduce the possibility of specific stimulus control and maintain the child's level of social interaction over time. Allen, Hart, Buell, Harris, and Wolf (1964) utilized teacher attention as a positive reinforcer to increase interactions between a preschool-aged child and a peer, to decrease the amount of solitary play, and to reduce the child's tendency to limit social interaction to the teacher. Once the preschooler met criterion in terms of the number of interactions, the investigators reversed the consequences of the original reinforcement. The number of interactions decreased to baseline levels. In the final stage of this study, the investigators reinstituted the original contigencies and the number of interactions increased substantially. The desired level of peer interactions was maintained at the conclusion of the study by employing an intermittent reinforcement schedule.

It also appears that complex forms of social interaction may be systematically shaped using teacher attention. Cooke[3] increased the difficulty of the requirements necessary for elementary school children to receive teacher attention as a reinforcement. Initially, the child was reinforced for smiling. Later, the child was reinforced for smiling and sharing with peers. In the third phase, smiling, sharing and physical contact with a peer were prerequisites for reinforcement. Finally, compliments to peers were added to the list of behaviors required to obtain teacher attention.

Cooke reported that all behaviors increased during training, although this did not carry over into all situations. Although more work is needed to establish that these skills can be generalized to a variety of situations, this work does offer interesting possibilities concerning strategies for intervention. It may be possible for a teacher to establish a hierarchy of increasingly more complex behaviors as prerequisites to adult attention in order to shape the sophistication of children's responses.

While the use of teacher reinforcement may be an effective technique in some situations, several limitations concerning its use have been identified (O'Connor, 1972; Strain et al., 1976). O'Connor pointed out that a teacher may inadvertently be reinforcing attention to adults, even though the purpose is to facilitate interactions between children. For example, even the teacher's presence may interrupt opportunities for social interaction (Apolloni and Cooke, 1978). Therefore, teachers must be as unobstrustive as possible when they intervene in the process of social interaction.

Other considerations in the use of teacher reinforcement techniques have been noted by Strain et al., (1976). These authors point out that the use of contingent adult attention requires the continuous presence of the teacher to reinforce the students. Given the other demands on the teacher, such continuous attention may not always be possible. In addition, teachers may not always be in a position to observe every interaction or behavior that occurs. As a result, the reinforcement may be inconsistent. Finally, children may become stimulus-bound to a specific teacher. Although the teacher may be able to establish control of particular behaviors, it may be difficult for the child to generalize the response to other people or settings.

The above findings clearly indicate that teacher reinforcement is a powerful way of facilitating social interaction between handicapped and nonhandicapped children. However, it is also clear that these techniques are most useful in situations that permit the teacher to be in almost constant contact with the child. Even in these situations, the child's ability to generalize may limit the utility of such an approach. An alternative which has generated a great deal of interest in the research literature concerns the use of peers as facilitators of social interaction. The remaining section of the present paper will review relevant research findings related to the issue of using peers to facilitate interaction.

Peers

In recent years, a great deal of attention has focused on the use of nonhandicapped peers as reinforcing agents, as behavioral models and as tutors for handicapped children. At least in part, this interest has developed due to the sheer number of peers relative to adults in the classroom. The ready availability of peers is an advantage since they can provide the continuous, ongoing intervention that teachers cannot.

A great deal of research suggests that peers can be trained and utilized as reinforcing agents (Guralnick, 1976). Even preschool aged children have been taught to dispense or withhold reinforcement, contingent upon the behavior of a handicapped child. Effective techniques have included giving and withholding social reinforcement such as peer attention, and giving and withholding more tangible forms of reinforcement such as edibles (Wahler, 1967; Allen, Hart, Buell, Harris and Wolf, 1964; Snyder, Apolloni and Cooke, 1977; Guralnick, 1976b). These techniques have been found to be effective in changing a variety of behaviors. For example, Guralnick (1976a) found that peer reinforcement was an effective way of altering the behavior of a preschooler whose behavior was predominately isolated to more socially positive. In another study, Guralnick (1976b) used peer attention to reinforce more advanced types of play in a handicapped child.

In addition to simple reinforcement procedures, peer modeling has been suggested as a possible technique to facilitate social interaction. It has long been argued that both children and adults learn many behaviors from observing and imitating the behavior of others (Bandura, 1974). It has further been suggested that children are more effective models for other children than are adults (Bricker, 1972). As a result, a number of investigators have explored the use of peer models in order to facilitate social interaction among handicapped and nonhandicapped preschoolers and to facilitate more advanced levels of social play. For example, O'Connor (1969) reported increases in the social interaction of handicapped children following a 'symbolic' modeling program, in which children were shown a film of peers interacting associated with reinforcing consequences. Further work by O'Connor (1972) suggests that symbolic modeling may even be more effective as a method of intervention than direct dhaping procedures. He found that levels of social interaction were more stable over time using modeling than using shaping.

A third strategy involves the utilization of peers as tutors. The use of peers in age-group and cross-age tutoring has become an accepted practice

in the field of education. This technique can even be implemented in an integrated preschool with nonhandicapped children tutoring their handicapped peers. However, it is important to carefully select peers to maximize the potential for positive interaction. McHale (1980) reported the successful use of peer tutoring with a group of autistic, elementary-aged children and their peers. As a result of peer tutoring, McHale reported increases in the on-task behavior and decreases in the off-task behavior of autistic children.

Thus it seems clear that peers can effectively facilitate the social behavior of handicapped children. In fact, the use of peers appears to be one of the most effective strategies currently available.

Conclusion

The literature reviewed in this paper clearly reflects a growing interest in the integration of handicapped and nonhandicapped preschool children. Early studies demonstrated that social interaction between handicapped children and their peers was minimal unless specific attempts were made to facilitate interaction. Since that time, many investigators have explored the effectiveness of various intervention techniques as ways of increasing the amount of interaction that takes place.

Three major strategies appear to be effective ways of facilitating interaction. The first involves the manipulation of the child's play setting. Specifically, play materials that tend to be 'social' in nature appear to encourage interaction whereas other toys tend to encourage children to play alone. In addition, teachers can specifically structure the play situation in ways that tend to encourage interaction. A second strategy which has been found to be helpful in facilitating interaction involves the use of teacher reinforcement. Contingent adult attention is only one of the many reinforcers found to be effective in altering the frequency of interaction between children. Finally, peers have been used successfully as reinforcing agents, as models and as tutors.

Thus, a variety of strategies have already been developed which may be useful techniques for teachers who are interested in facilitating social interaction. In selecting which strategies to use, consideration must be given to specific classroom constraints that may influence the utility of a particular technique. For example, are peers available in the classroom who are able to observe the occurrence of specific behaviors and deliver reinforcement appropriately? Will adults be able to observe most instances of the desired behavior so that reinforcement is provided consistently?

In addition to the use of these strategies, others are in need of systematic investigation. Much more work is needed to determine the effects of context, classroom size, and the relative ratios of handicapped children to adults and peers. Information is also needed concerning the behavioral characteristics of children which are associated with higher levels of interaction. The availability of such information will aid teachers and administrators considerably in the development of integrated preschool programs which facilitate social interaction among children.

Notes

1. Bell, P. B. *A descriptive analysis of behaviors occuring between developmentally disabled and nondisabled preschoolers.* Unpublished masters thesis, University of Nebraska, 1977.
2. Wegley-Brown, C., Schimneller, G. L., and Peters, D. L. *A naturalistic study of conditions promoting social integration of handicapped and nonhandicapped children in early childhood classes.*
3. Cooke, T. P. *Increasing levels of positive social-emotional behavior through use of behavior analytic teaching tactics.* Unpublished masters thesis, George Peabody College, 1975.

References

Allen, K. E., Hart, B., Buell, J. S., Harris, P. R., and Wolf, M. M. Effects of social reinforcement on isolate behavior of a nursery school child. *Child Development,* 1964, *35,* 511–518

Anastasiow, N. J. Strategies and models for early childhood intervention programs in integrated settings. In M. Guralnick (Ed.), *Early intervention and the integration of handicapped and nonhandicapped children.* Baltimore: University Park Press, 1978.

Apolloni, T.; Cooke, T. P.; and Cooke, S. A. Establishing a normal peer as a behavioral model for developmentally delayed toddlers. *Perceptual and Motor Skills,* 1977, *44,* 231–241.

Bandura, A. Behavior theory and the models of man. *American Psychology,* 1974, *29,* 859–869.

Berry, P. and Marshall, B. Social interactions and communication patterns in mentally retarded children. *American Journal of Mental Deficiency,* 1978, *83,* 44–51.

Brackett, D. and Henniges, M. Communicative interaction of preschool hearing-impaired children in an integrated setting. *The Volta Review,* 1978, *78,* 276–285.

Bricker, D. D. A rationale for the integration of handicapped and nonhandicapped preschool children. In M. Guralnick (Ed.) *Early intervention and the integration of handicapped and nonhandicapped children.* Baltimore: University Park Press, 1978.

Bricker, D. D., and Bricker, W. A. *Toddler research and intervention project report: Year I.* IMRID Behavioral Science Monograph 20. Nashville, Tenn.: Institute of Mental Retardation and Intellectual Development, George Peabody College, 1972.

Buell, J.; Stoddard, P.; Harris, F. R.; and Baer, D. M. Collateral social development accompanying reinforcement of outdoor play in a preschool child. *Journal of Applied Behavior Analysis,* 1968, *1,* 167–173.

Cavallaro, S. A., and Porter, R. H. Peer preferences of at-risk and normally developing children in a preschool mainstream classroom. *American Journal of Mental Deficiency,* 1980, *84,* 357–366.

Devoney, C.; Guralnick, M. J.; and Rubin, H. Integrating handicapped and nonhandicapped preschool children: Effects on social play. *Childhood Education,* 1974, *50,* 360–364.

Guralnick, M. J. The value of integrating handicapped and nonhandicapped preschool children. *American Journal of Orthopsychiatry,* 1976, *46,* 236–245.

Guralnick, M. J. *Early childhood intervention: The use of nonhandicapped peers as educational and therapeutic resources.* Paper presented at the International Congress of the International Association for the Scientific Study of Mental Deficiency, Washington, D. C., 1976.

Guralnick, M. J. Social interaction among preschool children. *Exceptional Children,* 1980, *46,* 248–253.

Hartup, W. W. Peer intervention and the processes of socialization. In M. Guralnick (Ed.), *Early intervention and the integration of handicapped and nonhandicapped children.* Baltimore: University Park Press, 1978.

Karnes, M. B., and Lee, R. C. Mainstreaming in the preschool. In L. C. Katz (Ed.), *Current topics in early childhood education, Vol. II.* Norwood, N. J.: Apex Publishing Corporation, 1979.

McHale, S., and Simeonsson, R. J. The effects of interaction on nonhandicapped children's attitudes toward autistic children. *American Journal of Mental Deficiency,* 1980, *85* (1), 18–24.

Nordquist, V. M. A behavioral approach to the analysis of peer interactions. In M. Guralnick (Ed.), *Early intervention and the integration of handicapped and nonhandicapped children.* Baltimore: University Park Press, 1978.

O'Connor, R. Modification of social withdrawal through symbolic modeling. *Journal of Applied Behavior Analysis,* 1969, *2,* 15–22.

O'Connor, R. D. Relative efficacy of modeling, shaping, and the combined procedures for modification of social withdrawal. *Journal of Abnormal Psychology,* 1972, *79,* 327–334.

Peterson, C.; Peterson, J.; and Seriven, G. Peer imitation by nonhandicapped and handicapped preschoolers. *Exceptional Children,* 1977, *43,* 223–225.

Porter, R. H.; Ramsey, B.; Tremblay, A.; Iaccobo, M.; and Crawley, S. Social interactions in heterogeneous groups of retarded and mormally developing children: An observational study. In G. P. Sackett and H. C. Haywood (Eds.), *Observing behavior, Vol. I: Theory and application in mental retardation.* Baltimore: University Park Press, 1978.

Quillitch, H. R., and Risley, T. R. The effects of play materials on social play. *Journal of Applied Behavior Analysis,* 1973, *6,* 573–578.

Raver, S. Preschool integration: Experiences in the classroom. *Teaching Exceptional Children,* 1979, *12,* 22–24.

Ray, J. S. *Behavior of developmentally delayed and nondelayed toddler-age children: An ethological study.* Unpublished manuscript. Nashville, Tenn.: George Peabody College, 1974.

Strain, P. S.; Cooke, T. P.; and Apolloni, T. Role of peers in modifying classmates' social behavior: A review. *Journal of Special Education,* 1976, *10,* 351–356.

Strain, P. S., and Timm, M. A. An experimental analysis of social interaction between a behaviorally disordered preschool child and her classroom peers. *Journal of Applied Behavior Analysis,* 1974, *7,* 583–590.

Strain, P. S., and Wiegerink, R. The effects of sociodramatic activities on social interaction among behaviorally disordered preschool children. *Journal of Special Education,* 1976, *10,* 71–75.

Wahler, R. G. Child-child interactions in free-field settings: Some experimental analyses. *Journal of Experimental Child Psychology,* 1967, *5,* 278-293.

Wolfensberger, W. *The principle of normalization in human services.* Toronto: National Institute on Mental Retardation, 1972.

Paula Beckman-Bell is an Assistant Professor in Special Education where she is involved in developing training programs in the area of developmentally delayed infants and young children. Her specialized interest is in the interaction between families and the handicapped child.

Barbara A. Stettner is a Faculty Research Assistant in the Department of Special Education where she is project assistant on a federally funded demonstration project in a public school serving severely and profoundly handicapped students. In addition, she is working as a student intern in the U.S. Department of Education, Office of Special Education.

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MAINSTREAMING DIGEST
A Collection of Faculty and Student Papers.

The Responsive Classroom Discussion:
The Inclusion of All Students

Frank T. Lyman, Jr.

SUPPOSE THE PURPOSE of educators is to create a learning environment in which students learn, maintain, and organize skills, ideas, and facts. What would a classroom have to be like to enable handicapped students to learn, maintain, and organize? This is a question for which there must be some fresh answers, if public education is to meet current challenges.

One answer to the question is that all students require a responsive classroom, a cooperative design in which response is asked of *everyone.* What neither "mainstreamed" students nor others need is a classroom in which one person talks at a time or no one talks, a classroom in which thinking is discouraged for fear it cannot be controlled, and in which competition is the chief motivator.

The answer is also not *freedom* in the sense some educators have meant. Most teachers who give a seventh grade class freedom had better duck. The lack of realization that a river needs banks to flow has cost American education plenty in extreme reaction. What *is* required is a systematic classroom in which students are asked to respond, often in interaction with each other.

Assuming that a form of "responsive classroom" is a fitting design for America's increasingly inclusive and multi-ability public schools, what might be its dimensions? Some of these certainly are: structured pair and small group learning, systematic invitations to think, and a premium on original work, learning strategies understood by students, and, in general, teaching strategies which facilitate learning as well as classroom control.

The purpose of this article is towards the practical—to describe a cooperative pair discussion strategy which can be the cornerstone of any classroom in which all learners are to be accommodated.

Listen-Think-Pair-Share: A Multi-Mode Discussion Cycle

The answer to the following questions is generally *no.* In a traditionally run classroom discussion, do students learn much from one another? Do they learn to like or respect one another? Do they tend to remember what

was talked about? Do they listen to each other? Do large percentages of them speak? Are they unafraid to speak? In addition, do physically handicapped or learning disabled children feel comfortable speaking or otherwise participating in the arena (large group) setting of the discussion?

Since these are important questions and the answer to them is *no* for large numbers of students, is there an alternative discussion strategy to the teacher-question/one-student-respond-at-a-time format? In the Howard County, Maryland public schools,* student teachers and classroom teachers are developing and using a four-phase discussion strategy called "Listen-Think-Pair-Share."† With this strategy, students are taught to *listen* to the question, *think* about the question, to discuss the question in *pairs,* and finally to raise hands and *share* with the total group. Visual cues, such as cubes, wheels, and charts, and transition cues, such as bells, can be used to bring the students from one part of the cycle to the next. Teachers can also use time deadlines for the thinking and pairing as well as have students diagram and/or write out answers. The strategy can be used at all chronological or ability levels, in all subjects, and in any setting.

An example of the discussion cycle in action would be a total class discussion following the viewing of a filmstrip. The teacher uses a hanging chart listing the words, Listen-Think-Pair-Share. As the cycle proceeds, an arrow is pulled down a strip and set opposite the mode. After each question, students are first given time to think; then they answer the question with a partner. Each paired response is given a time limit according to the difficulty of the question. At the sound of a transition bell, students take ten seconds to finish their response and then raise their hands to answer the question to the larger classroom arena.

Preliminary field testing of the Multi-Mode teaching cycle has yielded overwhelmingly favorable results. The most easily observed and commonly reported result is that many more students raise their hands to speak after "rehearsing" in pairs and some normally non-participating students are among these (*Catalyst,* 1981).

A quote from a course project study done by a University of Maryland graduate student (Hutchison, 1980) is illustrative of this common finding.

> For all three days, in each group not using the cube, there was an average of 4.6 students who did not respond, whereas every student responded in the groups using the cube. In all problems, the group

*The strategy was invented in the University of Maryland/Howard County Southern Teacher Education Center.
†Also called the Multi-Mode Cycle.

> using the cube remained on task and only required three cues during the three-day period, while the groups not using the cube were cued to stay on task forty-two times during the three-day period and engaged in frequent deviant behavior. (p. 6)

This research found at least 50% more response after pairing. This has been the finding of several teachers and student teachers.

In the above quote, the observation concerning more on-task behavior is similar to that made in a comparison study by Bernstein (1980), a third-fourth grade teacher at Jeffers Hill School in Columbia, Maryland. This teacher found less off-task behavior when using Think-Pair-Share. Also Morris (1980), a media specialist observing videotapes of the traditional and multi-mode strategies, found that "three students who acted out during the first tape were enthusiastically involved in the 'pair' mode and continued to participate during the 'share' mode. . . "

A review of the literature of cooperative learning by Johnson and Johnson (1980) shows benefits of cooperative learning strategies. The literature reveals advantages of cooperative learning for students in the areas of acceptance, support, and liking; exchange of information; motivation; emotional involvement in learning; achievement; perspective taking (empathy); self esteem; psychological health; liking for other students; and liking for school personnel. The other findings also showed a positive effect of cooperative learning strategies on relationships between handicapped and nonhandicapped students (Johnson and Johnson, 1980). The authors write:

> Perhaps the most important aspect of instruction a teacher can control is the way learning goals are structured. The structure of learning goals controls how students interact with each other, which in turn greatly affects the cognitive and affective outcomes of instruction . . . , a cooperative goal structure should be used and competitive and individualistic goal structures should be deemphasized . . . (p. 117)

The Multi-Mode discussion strategy is a cooperative goal structure and as such may affect handicapped and nonhandicapped students in areas mentioned above. Since classroom discussion is so pervasive in American schools, a shift to a more cooperative discussion structure could have far-reaching positive consequences.

In summary, the preliminary field testing performed on the Multi-Mode discussion strategy indicated that the Listen-Think-Pair-Share

Cycle increased students' willingness to share openly in front of the group, often bringing out students who never speak in the arena setting; increased on-task behavior and decreased disruptiveness; created a safe setting in which almost all will talk with a partner; increased "wait-time," which could be associated with better recall (Bradbie, Chillemi, and Harrison, 1979); and improved the quality of responses made. These findings are tentative and studies should be undertaken to verify them. Particular emphasis should be placed upon using these strategies with handicapped students in mainstreamed classrooms.

In order for teachers to instruct effectively in the modern multi-ability classroom, new methods and ideas must be found. What is being proposed here is a redesigning of our ideas on classroom discussion based on principles of every-pupil-response and cooperation. If first indications prove correct, some of the difficulties associated with mainstreaming and more inclusive classrooms can be alleviated—or at least those difficulties related to classroom discussion.

References

Bernstein, C. "The Listen-Think-Pair-Share Classroom Techniques." Unpublished manuscript, University of Maryland, December, 1980.

Bradbie, J.; Chillemi, L.; and Harrison, A. "Think-Pair-Share and its Effects on Achievement in Social Studies." Unpublished course project, University of Maryland, 1979.

The Catalyst, Vol. 2 No. 2, April 1981.

Hutchison, V. "The Effects of Using the Think-Pair-Share Cube on Classroom Management and the Number of Student Responses among Fifth Graders." Unpublished manuscript, University of Maryland, Spring 1980.

Johnson, D. W., and Johnson, R. T. "The Classroom as Social System: Classroom Learning, Structure, and Mainstreaming." In D. Corrigan and K. R. Howey (Eds.), *Special Education in Transition.* Reston, Va.: ERIC Clearinghouse for the Council for Exceptional Children, 1980, 105–136.

Morris, D. "Supervising Myself." Unpublished course project on increasing participation by mainstreamed students, December 1980.

Frank Lyman is a former elementary school teacher
who is a Teacher Education Center Coordinator
for the Howard County Schools and the University of Maryland.
In collaboration with teachers, student teachers, administrators, and professors,
he is an inventor and developer of teaching/learning ideas.
The best known of these ideas is webbing, or Think-Links
—a graphics medium for the generation and organization of thought.

To Be Treated Differently or Not?

Irene Schreiner

"SWIMMERS, TAKE YOUR MARK!" The gun blared simultaneously with the word "GO!" The refereee continued shooting the gun, for there was a false start in the center lane. A few seconds later the starter repeated, "Take your mark! . . . GO!" Now the swimmer in the center lane reacted with hesitation. This was only a 50-meter race but it appeared that the middle swimmer had almost caught up with the others. Swimmers in lane four and two were excellent swimmers and had won many local awards and even a few college races. However, the swimmer in the third lane nearly missed the wall and only placed third in the race.

"Well, at least I came in third!" I announced happily to my friends. They were impressed since they were conscious of the fact that this was my first race after two years of practicing. Jokingly, I described to them my false start and they laughed! After all, I rationalized silently to myself, it is tough to lipread the starter, especially since this particular gun did not emit smoke! I further thought that it would be neat if scientists could invent a waterproof hearing aid! It should be mentioned that a hard-of-hearing or deaf person may request a person to hold the leg while on the starting block and release on the word "GO!" That, however, was not my choice since it meant being conspicuous and I didn't want to be treated differently because of my hearing loss. (Incidentally, my hearing loss from birth is about 65 decibels in both ears and the cause is unknown.)

That fall, I entered one of the best physical education colleges on the East Coast for a master's degree in Physical Education. Prior to going there, I had just completed my master's degree in Education and decided that coaching may be my next career. After dissecting cats and frogs and memorizing human bones, I concluded that I would rather return to the field of early childhood education. After teaching at the college level for six months, I then applied to an institution for higher learning in a doctoral program. At the time, my friends and family warned me that working for a Ph.D. degree may be an unachievable goal.

On the first day of my classes, I informed my professors about my hearing aid. However, I had debated with myself whether it was necessary to notify the instructors. Since there have been incidents where that knowledge resulted in different treatment, I personally would rather not inform the professors. On the other hand, there are also circumstances where it would be helpful for the instructor to be aware of the hearing-impaired. The following illustrations will present some of the problems faced by myself in graduate school.

In several of my classes, the professor conducted the class in large group discussion. It was easy for me to comprehend the conversation to my near right or left, but became very difficult when the talking shifted across to the other side of the room. The same difficulty occurred in the traditional rows of desks—the person in the back would be harder to hear than the person in the front. Some professors utilized the blackboard and frequently the instructor's back would be to me. Since I rely on lipreading, the information I obtained would often be scrambled. A few of my professors wore mustaches which made lipreading more of a challenge! The variations in tone quality of a professor's voice will also affect my listening level. Although the use of headphones may be an asset to some, hearing-impaired students trained in lipreading as I am will not be able to use the headphones. Even if the adjusted volume fits my hearing capacity, the amplification will differ from my hearing aid which will cause distortion for me.

It was unknown to me just how much information I did lose in class until this past semester. A student transcribed all her notes from the tapes in class. I missed one class and borrowed her notes. Included in the notes were the past lectures as well as the one I needed. It was an experience of shock and a sense of joy for me. Shocking to realize how much information I did not receive and yet terrific that I have managed to get through graduate school thus far!

Other problems I encountered included poor acoustical design of the classroom, malfunction of my hearing aid (that is, dead batteries; humidity; too much noise; mechanical troubles), and my incorrect response to misinterpreted questions.

Being hard-of-hearing did not present a problem for me until I became aware that there might be a difference in how others perceived me. Although papers and research projects were common among my classes in my master's program, the high grades I received at the doctoral level brought questions of whether professors were treating me differently. It became difficult for me to judge whether my papers did merit the grades

that I received. Is it possible that the professors believe that the product was well done since it was written by a *handicapped* person? How can a person like myself feel any sense of accomplishment at the graduate level when there are only grammatical corrections written on my papers? A few professors did write comments on the concepts involved and these are the ones that I cherished the most.

At this point, you may be asking, "what can a faculty member do if there is a deaf or hearing-impaired student in the class"? The following are suggestions culled from my personal experience. First, even though each person is unique, it is imperative to face the hearing-impaired student and never over-enunciate your conversation. It may be helpful to slow down your speech, but there is no need to increase your volume. I realize this is hard since logically it may aid the individual. The following example may illustrate the problem—While I was working for my physical education master's degree, I taught swimming to undergraduate students. In one of my classes, I had a blind student. It was a challenge for me to work with her and I talked louder to her than anyone else in the class. I was attempting to compensate for her blindness by raising my voice! One day I realized this and questioned her and she shyly admitted that my speech was a little bit loud!

Second, when the professor answers a student's inquiries, it has been beneficial for me when the student's question was repeated. It would also be of assistance if the teacher would conduct the lectures near the side of the hearing aid. In my case it is most advantageous when the teacher is located close to my right side rather than my left. Some professors have encouraged "hearing" students to notify him/her if they were talking too fast or were speaking too softly. This is very beneficial for the "non-hearing" student. If the educator utilizes discussion groups, it is helpful to have the group gathered close and for the teacher to occasionally act as an interpreter. One professor, for example, would restate what the group had said before discussing a new issue. This assists all students.

Third, the instructors should know that hearing aids only amplify sounds. This means that they do not function like glasses where wearing them will correct the vision. It is also important to know that there are very few "deaf and dumb" individuals. Although it should not be a surprise to know that hearing-impaired students need to work harder with vocabulary than the hearing person. Finally, there will be hard-of-hearing individuals who have not utilized their hearing aids as well as some others.

As with any handicap, the student's capabilities will be determined by

the individual's attitude and experiences. One of my attitudes has been to fight for equal treatment and to notify people that being hard-of-hearing is not as bad as one thinks. It may be useful to reflect upon the time you purchased your first car, and then your second car. You probably didn't notice the difference until after you bought the second car. I don't know what it is like to hear without a hearing aid and it does not matter since I realize it will be impossible to replace my damaged nerve.

The reflections presented in this article are merely my own and may not reflect other hearing-impaired individuals. However, I am convinced that they and other handicapped students will agree with me that we should be treated the same as long as we can do the same work as our classmates.

Irene Schreiner has completed all her course requirements for a Ph.D.
and is now working on her dissertation.
She is currently employed as a graduate research assistant
in the National Leadership Development Program at the University of Maryland.
Irene received her Master's degree
from the State University of New York at Buffalo (1977)
and her Bachelor of Arts degree from Ladycliff College (1976).
She also has 35 credits towards her Physical Education Master's degree.

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